

City of Biddeford
Planning Board
December 20, 2023 6:00 PM City Hall
Council Chambers, & Zoom
<https://biddeford.zoom.us/j/94983531202?pwd=Q3ZyejcyUVpBaUVVMHduYXJhSzB4UT09>
Webinar ID 949 8353 1202; Passcode 223739

STATUS: PLANNING BOARD MEETING, WEDNESDAY, DECEMBER 20, 2023, 6:00 PM, CITY COUNCIL CHAMBERS & ZOOM

5:00 pm EXECUTIVE SESSION PURSUANT TO M.R.S. § 405 (6)(E), THE BOARD WILL DISCUSS AND RECEIVE LEGAL ADVICE FROM THE CITY ATTORNEY

- 1. PLEDGE OF ALLEGIANCE**
- 2. DECLARATION OF QUORUM/VOTING MEMBERS**
- 3. ADJUSTMENTS TO THE AGENDA**
- 4. PLANNER'S BUSINESS**
- 5. CONSENT AGENDA**
 - 5.A. Approval of Meeting Minutes from December 6, 2023
[PB Minutes 120623-DRAFT.pdf](#)
- 6. UNFINISHED BUSINESS**
- 7. NEW BUSINESS**
 - 7.A. 2023.44 Preliminary Subdivision Review - Subdivision Review for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure on Raymond Street (Tax Map 29, Lot 108), within the Berry Park Apartments located in the R-2 Zone.
[Berry Park Apartments Preliminary Plan Planning Board Report 12-12-23.pdf](#)
[Site Design Associates Preliminary Plan Comments 12-11-23.pdf](#)
[Berry Park 10-Unit Site Plan Application Combined 11.22.2023.pdf](#)
[Berry Park Apartments Plan Set 2023.11.22.pdf](#)
- 8. OPEN PUBLIC HEARING**
 - 8.A. 2023.51 SECOND READING of a proposal to Re-Zone some of the R-2 & R1A lots to MSRD-2.
[Zoning Map Amendment R2 to MSRD2 12-06-23 PB MEMO.pdf](#)
[Rezoning Map Proposal 9-20-2023 .PNG](#)
 - 8.B. 2023.52 SECOND READING of a Proposal to Amend Part III, Article VI, Section 58, B1, 2 & 3 entitled Subsurface Wastewater Disposal and Sludge Spreading, to correspond with the Maine State Plumbing Code.
[Septic and Sludge Ordinance Amendment 12-20-23 PB MEMO.pdf](#)
[Maine House of Representatives email regarding sludge 12-8-23.pdf](#)
[Ordinance Amendment SEPTIC and SLUDGE 12-20-23.pdf](#)
 - 8.C. 2023.58 FIRST READING to review and possibly update Table A of the Table of Land Use Codes to include Bottle Clubs in MSRD-1, 2 & 3
[Bottle Clubs 12-13-23 PB MEMO](#)

9. CLOSE PUBLIC HEARING

10. ADJOURN

The Board reserves the right to halt official business at 9:30 p.m. Items not heard at tonight's meeting shall be rescheduled to the next meeting of the Board. All materials pertaining to items on the agenda are available for public review at the Biddeford Planning Department, second floor, Biddeford City Hall during normal business hours.



CITY OF BIDDEFORD

Planning and Development Department

205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115

Planning Board Meeting Minutes

DRAFT

Date: December 6, 2023
Time: 6:00 PM
Location: Council Chambers & Zoom

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
Quorum Present: Larry Patoine (Chair), Susan Deschambault, Roch Angers, Alexa Plotkin & Stephen Beaudette
Staff Present: David Galbraith, Eric Freeman & Nan Whitten
Chair Patoine opened the meeting at 6:01 PM
3. Adjustments to the Agenda
Applicant has removed item 6B from the agenda.
4. Planner's Business
4. A. Amendment to Table A Bottle Clubs, in the MSRD 1, 2 & 3.
First reading will be 12-20-23
Eric Freeman gave an update on the Comprehensive Plan and thanked the Board for their hard work and kindness while he worked at the City of Biddeford. The Board thanked Eric and wished him well.
5. Consent Agenda
Approval of Meeting Minutes from November 15, 2023
MOTIONS: 6:16 PM
Plotkin-MOTION-To approve the Meeting Minutes from 12-15-23 as submitted
Angers-SECOND Motion approved unanimously
6. New Business
6. A. 2023.55 Discuss and take questions regarding a Greatest Practical Extent Application submitted by the City of Biddeford, to repair the retaining wall on the Riverwalk.
 - Tom Strike of Weston Sampson and Roby Fecteau Codes Enforcement Office for the City of Biddeford presented the information for the application.
 - Mr. Strike presented a Power Point presentation explaining how the wall was damaged and what needs to be done to repair it.
 - Mr. Angers was concerned about traffic disruptions. Mr. Fecteau replied that constant traffic would not be happening. There will be deliveries of material periodically.
 - The drop off spot will be behind the gazebo at Mechanic's Park.

- Ms. Deschambault asked about how the particular wall was chosen for replacement. She was told the City chose based on what would work best. This was approved by National Historic Preservation.
- Mr. Galbraith commented that this project does not require local Historic Preservation approval.
- Mr. Fecteau told the Board that this project still has to go back to the City Council, DEP and out to bid.
- The portion of land that fell into the river during the storm that destroyed the sea wall will be replaced in kind.

MOTIONS: 6:44 PM

Deschambault-MOTION-To approve the Shoreland Zoning application for the proposed retaining wall repair located at 2 Main St. as presented.

Angers-SECOND Motion passed unanimously

6. B. 2023.36 Discuss and take questions regarding a Sketch Plan Review Application submitted by Riverbend Reserve, LLC for Homestead by the River. The proposal is to open a 3,168 square foot restaurant at Homestead by the River Campground located at 608-610 New County Road further described as Tax Map 6, Lot 35-2 in the Rural Farm District (RF) and Shoreland Overlay. **ITEM REMOVED FROM AGENDA BY APPLICANT**
6. C. 2023.20 Discuss and take questions regarding a Preliminary Subdivision Application request for Lisa & Travis Wing. The proposed subdivision and private road are located at 1 Moxie Lane, further described as Tax Map 77, Lot 22 in the Suburban Residential 1, Rural Farm and Shoreland Overlay Zones. The plan is to re-construct a private road for 4 residential lots, 3 of which being new lots.
 - Paul Gadbois represented the applicants
 - Submitting Permit By Rule
 - The Fire Department been over with their ladder truck over and are satisfied with the 10 foot radius.
 - Iron rods have been set as road monumentation as this is a private road.
 - The 12'culvert set by the City in '04 was discussed.

MOTIONS: 6:54 PM

Plotkin-MOTION-to approve the Preliminary Plan application for the proposal located 1 Moxie Lane (Tax Map 77, Lot 22), within the Suburban Residential & Rural Farm (SR 1 & RF) zones, as well as shoreland overlay zone.

Angers-SECOND Motion passed unanimously

7. Workshop

7. A. 2021.42 Workshop for South Street Village, LLC for the Hidden Hills Manufactured Housing Park located at 413 South Street, further described as Tax Map 7, Lot 8. This parcel is in the Suburban Residential 1, Rural Farm and Mobile Home Overlay Districts. The purpose of a Workshop is for Board discussion, input from the general public is not permitted.
 - Matthew Chamberlain represented himself as applicant
 - The discussion centered around sidewalks inside the development and on South Street.

- There is the possibility of the applicant paying a fee in lieu of constructing sidewalks on South Street. If this becomes the case of dollar amount of the fee must be determined.
 - It was decided that the Planning Board would hold an Executive Session with the City Attorney to discuss the issues. The Board would like to know (a) who determines how much the fee should be (b) where in the ordinance does it say the applicant must construct sidewalks on South Street and Water Works Way (c) They want to know who has been assessed this fee in the past and what the fee was as they wasn't the fee to be fair (d) what about the fact that this project has been in the pipeline since 2021 and was never spoken to about sidewalks until he applied for final approval.
8. Open Public Hearing
8. A. 2023.51 FIRST READING of a proposal to Re-Zone some of the R-2 & R1A lots to MSRD-2.
MOTIONS: 8:11 PM
Deschambault-MOTION-To approve the proposed Map Amendments to Rezoning Areas from R-2 and R-1-A to MSRD-2, as proposed and illustrated.
8. B. 2023.52 FIRST READING of a Proposal to Amend Part III, Article VI, Section 58, B1, 2 & 3 entitled Subsurface Wastewater Disposal and Sludge Spreading, to correspond with the Maine State Plumbing Code.
MOTIONS: 8:14 PM
Deschambault-MOTION-To approve the proposed Amendments to Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations, as proposed and written.
Angers-SECOND Motion Passed Unanimously
Plotkin-MOTION-To approve the proposed amendment to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading as written and proposed.
Angers-SECOND Motion Passed Unanimously
9. Close Public Hearing
10. Adjourn

Meeting adjourned at 8:21 PM

Planning Board Chair/Vice Chair

Date

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.

Case 2023.44: Preliminary Site Plan Review for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure on Raymond Street (Tax Map 29, Lot 108).
Planning Board Hearing date: December 20, 2023.

The existing units consist of 18 duplexes, each of which contains a total of six bedrooms per unit, with either a three (3) bedroom and a three (3) bedroom or a four (4) bedroom with a two (2) bedroom units. The sketch plan application includes a narrative which includes the following proposal overview:

The project site is approximately 5.66 acres in size and is identified as Lot 108 on Biddeford Tax Map 29. The site is owned by Berry Park Apartments, LLC and is located in the R2 Multi-Family Residential Zoning District.

The project is within Berry Park, an existing 36-unit affordable housing development located on Raymond Street in Biddeford. The development was constructed in the early 1970's and includes 18 duplex buildings.

Berry Park is bisected by Raymond Street, a 30'-wide (+/-) paved public street with bituminous curbing and sidewalks on both sides. The existing duplexes are located along both sides of Raymond Street, approximately 20' to 30' from the public right-of-way.

The buildings are served by public water and sewer services located in Raymond Street and overhead electric and telecommunications services fed from utility poles, several of which include cobra-head style street lights.

The location of the proposed building is the southern corner of the Berry Park parcel, on the south side of Raymond Street. The project site is approximately 0.6 acres in size and is comprised of mowed grass and unmaintained shrub vegetation.

The applicant is proposing to construct a new 2-story, 10-unit residential building with associated site improvements. The project will be financed through the Maine State Housing Authority's (MSHA) Low Income Housing Tax Credit (LIHTC) program and will provide housing for low income renters.

The new building will be served by the existing public utilities located in Raymond Street, and off-street parking for residents will be provided adjacent to the building. We believe that the attached Sketch Plan conforms to all dimensional standards for the R2 Zone, such as frontage and setbacks. In addition to constructing the new 10-unit building, the applicant is planning to renovate the existing buildings, repair paved driveways, and install new landscape plantings throughout Berry Park. These site-wide improvements to the existing development are part of a capital improvement plan for the property and are not expected to require Site Plan review.

Case 2023.44: Preliminary Site Plan Review for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure on Raymond Street (Tax Map 29, Lot 108).

Planning Board Hearing date: December 20, 2023.



Berry Park Apartments – Proposed 10 Unit Building – Front Elevation

2. PROJECT DATA/INFORMATION

1.	Applicant:	Everybody Loves Raymond St LP 17 South Street, 3 rd Floor Biddeford, ME 04005
2.	Owner of Property:	Berry Park Apartments, LLC Same address as above
3.	Agent:	Michael Tadema-Wielandt P.E. Terradyn Consultants 565 Congress Street, Suite 201 Portland, ME 04101
4.	Surveyor:	Same as Above
5.	Project Location:	27-81 Raymond Street
6.	Project Tax Map #/Lot #:	Tax Map 29, Lot 108
7.	Lot Size:	5.66 Acres
8.	Base Zoning:	R-2
9.	Overlay Zoning:	N/A
10.	Existing Use:	36 Unit Development, Including 18 Duplexes
11.	Proposed Use:	2-story 10-unit Residential Building Addition
12.	Approvals Required:	Site Plan Review
13.	Uses in the Vicinity:	Residential
14.	Waivers Needed:	a. Article VI, Section 49-c-3-f parking aisle width reduction from 24 feet to 22 feet.
18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	N/A
23.	LDR Attachment A: Fees Paid:	Yes
25.	Planning Board Review History:	N/A

Case 2023.44: Preliminary Site Plan Review for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure on Raymond Street (Tax Map 29, Lot 108).

Planning Board Hearing date: December 20, 2023.

3. REVIEW PROCESS

Per City ordinance, this application is subject to Site Plan (Land Development Regulations, Article XI) review and approval by the Planning Board.

4. Departmental Review Comments:

A. Planning:

1. The final application shall include a site plan for the entire development.
2. All existing and proposed landscaping shall be illustrated on Preliminary Plan Application, which shall include type, number, size and species of all landscaping materials.
3. Landscaping plans shall include all existing materials proposed to remain and any vegetation proposed for removal. Landscape buffers shall be planted at the sides and rear of the building to provide a visual screen for the surrounding residential properties.
4. Playground areas should identify specific areas where they being relocated / proposed in addition to the type of playground equipment being proposed.

B. Code Enforcement:

1. No comments / concerns at this time.

C. Engineering / Public Works:

1. No Comments

D. Police:

1. No comments / concerns at this time.

E. Fire:

1. The mechanical equipment room and fire connection need to be placed towards the front of the building.

F. Traffic Peer Review:

1. Not Applicable.

G. Engineering Peer Review: Comments from Site Design Associates

1. Peer review comments are attached.

5. STAFF REVIEW

- **APPLICATION COMPLETENESS:** The applicant has submitted a complete application, featuring all required elements as specified under Section 66-35 (Required Information for Final Plan Submissions). As part of the staff's review comments, we've identified aspects of the plan submission to be revised or clarified, which we suggest being made a condition of approval.
- **ZONING:**

Case 2023.44: Preliminary Site Plan Review for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure on Raymond Street (Tax Map 29, Lot 108).
Planning Board Hearing date: December 20, 2023.

The subject property is located within the City’s R-2 zoning district where multi-family dwellings are a permitted use. The proposed ten (10) unit building is situated in an existing multi-family development which is consistent with the surrounding duplexes within the Berry Park Apartments.

• **REVIEW STANDARDS:**

In general, staff found the application to satisfy City subdivision and site plan requirements. The major site details being proposed, such as building, parking, landscaped areas, gang mailbox and playground location have been determined by the Applicant so the plan being reviewed the Board are what is proposed to be constructed on the property.

• **WAIVER REQUESTED:**

The Applicants are requesting a waiver from Article VI, Section 49-c-3-f parking aisle width requirement reduction from 24’ to 22’. Reducing the parking aisle minimum aisle width allows for more space between the parking stalls and the building, which is needed to provide adequate room for ADA maneuverability. In our experience, a 22’ drive aisle is adequate for residents to safely maneuver in and out of the stalls.

6. STAFF RECOMMENDATION

Staff recommends the Board approve the Preliminary Subdivision Plans. Should the Board wish to formally make a motion sample motions are provided below:

7. SAMPLE MOTIONS

- A. Motion to Approve: I motion to APPROVE the Preliminary Site Plan application for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure within the Berry Park Apartments, on Raymond Street (Tax Map 29, Lot 108).
- B. Motion to Deny I motion to DENY Preliminary Site Plan application for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure within the Berry Park Apartments, on Raymond Street (Tax Map 29, Lot 108), for the following reasons:
- 1) _____.

2) _____.

3) _____.
- C. Motion to Table: I motion to TABLE the Preliminary Site Plan application for Everybody Loves Raymond St, LP / Proposed Construction of a 10-unit residential structure within the Berry Park Apartments, on Raymond Street (Tax Map 29, Lot 108), for the following reasons:
- 1) _____.

2) _____.

3) _____.

Site Design Associates

Consulting Engineering and Land Planning

December 11, 2023

Mr. David Galbraith
Via email

**RE: Berry Park Expansion
Raymond Street**

Dear David;

Per your request Site Design Associates has undertaken a review of the plans and documentation submitted in support of a site plan application for the referenced project. Our review was based on preliminary civil engineering plans dated 11-22-23.

We are aware that the plans are preliminary, and may not contain the detail one would expect in the final documents. Our comments include some items that may be closer associated with final documentation, in order for the applicant to consider them prior to the final plan submission.

Based on our review we offer the following comments for your, the planning board's, and the applicant's consideration:

A. General

1. The plans indicate that they have applied to the city for site plan approval. It seems that a development of this nature would also require subdivision approval.
2. No checklist was included in the documents provided to our office by Terradyn.
3. The application indicates a waiver of Article VI., Section 49.C.3.(f) to reduce the parking aisle width from 24 ft to 22 ft. is requested. We see no issues with granting this if the planning board is so inclined.

B. Stormwater Management

1. The plans indicate an R-Tank proprietary system will be utilized to provided control of the stormwater runoff rate and runoff quality enhancement.
2. The existing conditions drainage plan shows two analysis points and one subcatchment area. The time of concentration path goes to neither, and based on the topography, appears to run upgradient. The topographic survey indicates that the majority of the site runoff and runoff from off site areas onto the site drain to the southerly side of the property. This should be reviewed.
3. The time of concentration path data for the pre-development plan and the model are conflicting. Additionally, in our opinion, when the time of concentration path changes direction this becomes shallow concentrated flow and should be modelled accordingly.

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

4. The plans show a new stormdrain system connecting to the existing 8" diameter system in Raymond Street. This will include upgradient runoff from the northeast and east that currently is tributary to the area of Debbie Avenue at the southerly property line. These upgradient areas should be included in the model to determine whether the additional runoff will impact the existing system in Raymond Street. The stormwater management report states that this system is assumed to have adequate capacity, but we are unaware of what the basis is for this assumption.
5. Project specific details and elevations should be included on the R-Tank details including the elevation for the various design storms.
6. The report references NRCS soil mapping for the site to be Urban Fill, which is Hydrologic Soils Group A. The mapping provided suggests that Adams soils are present at the site. The geotechnical investigation references sandy material in the top 2 ft to three ft, which is similar to Adams soil, a Hydrologic Soils Group A soil. This information is consistent in that it all points to an HSG A soil. The model utilizes a Hydrologic Soil Group of C.
7. What is reason for submitting a Rational Method post development analysis? The TR-20 generated runoff rates should be used in the stormdrain design, and in the analysis of the existing systems.
8. The R-Tank size and layout as shown in the report conflict with the information shown on the drawings.
9. The times of concentration paths for SC-11 and SC-12 differ from that used in the model. Also, as noted above the sheet flow component should change to a shallow concentrated flow component where there is a direction change and/or swale.
10. The grades shown on the post-development drainage plans conflict with those shown on the grading plan.
11. The catch basins and inspection frequencies should be included in the I and M plan.
12. A draft five-year contract for maintenance of the R-Tank System should be provided. Also, note that inspections are required quarterly for the first year.
13. The salt management plan should be reviewed by staff. It seems additional information may be required such as sections for responsibility, contact information, operational considerations, snow removal and disposal, etc.
14. It seems per Chapter 34, Article VI, Division 2, Section 34-481(c) that a maintenance agreement for the R-Tanks will be required.

C. Drawings

1. Existing Conditions and Demolition Plans
 - a. A benchmark should be provided.
 - b. The plan should be updated with additional existing conditions information for the stormdrain systems in Raymond Street and Debbie Avenue. The majority of the runoff is being routed to an existing system in Debbie Avenue, but little information relative to this system is provided. Additionally, the city GIS system shows the two catch basins in Raymond

Street connected, and outletting to a pipe in the north side of Raymond Street. Does the underdrain shown at CB 1063 run as noted on the drawing?

- c. Based on the grading plan, it appears the six trees along the southerly property line will also be removed and if so, should be shown as such.

2. C-3.0 - Site Plan

- a. Curb radii and material should be noted.
- b. Will there be a common mailbox?
- c. A tree well is shown adjacent to the curb in the parking lot. It seems this will expose the tree to damage from bumper overhangs.
- d. Should there be bollards on the street side of the transformer for protection from sidewalk snow removal equipment?
- e. Utilities should be shown on the recording plat per the city codes.
- f. Is a waiver of Article XI.II. Section 5.B.4.f.2. required for the parking within 25 ft of the front property line?
- g. Is a waiver of the required number of parking spaces required, or has the city adopted the LD 2003 parking requirements?
- h. The sidewalk reconstruction should extend to beyond the underground electrical service to the transformer.
- i. A location map should be included on the recording plat per the city code.
- j. The setback for the above ground propane tanks from a property line is usually 25 ft for above ground tanks per NFPA-58.
- k. Is a 9 ft x 9 ft dumpster enclosure large enough for both waste and recyclable collection?

3. C-4.0 - Grading, Drainage and Erosion Control Plan

- a. More spot grades should be provided at the accessible parking spaces and at the sidewalk tipdowns in Raymond Street.
- b. We suggest the city consider perforated MDOT Type C underdrains for SD-4.
- c. The grading appears to create a low spot at the accessible space in the southwest corner of the parking lot.
- d. More spot grades and a detail should be provided at the gutter line and driveway intersections to ensure that a gutter is maintained along Raymond Street.
- e. The grading should be reviewed at the northeast corner of the building where off site runoff will flow toward the building.
- f. The spot grades around the building are generally higher than the finished floor elevation, which does not seem consistent with the building elevations provided. This is not a city issue, but we wanted to point it out.
- g. The location of gutter downspouts should be shown at the rear of the building and provisions made to control erosion at the outlets.

- h. Invert elevations should be provided for the 6" diameter header pipe collecting roof drains at the front of the building. The applicant also may want to consider whether this pipe could be designed as an underdrain as well, given the groundwater levels.
- i. Spot grades should be provided over the R-Tanks.
- j. Has the condition of CB 1559 been evaluated? If not, a note should be added to the plans that the CB should be inspected and results reported to the city engineering department prior to the installation of the new storm drains.
- k. Spot grades should be shown in areas where "grade to drain" is noted.
- l. Storm drain pipe materials should be specified.

4. Utility Plans

- a. The utilities at the northeast corner of the building are shown less than one foot from the property line, making excavation without encroachment on to the abutting property difficult. This should be reviewed.

5. Site Details

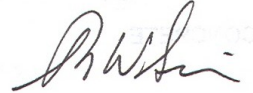
- a. Requirements for inspections during construction outlined in Chapter 500, Appendix B.1. should be included on Drawing C-6.0 and should be consistent with the requirements of the MDEP stormwater checklist.
- b. It is not clear the 7 ft x 12 ft x 1 ft deep sediment basin will be effective in providing sediment migration from the site. How was this sized?
- c. Rather than calling for the saw cut and removal of surface pavement on the pavement joint detail, the outside 1 ft should be milled to the depth of the surface course. The sawcut through the entire existing pavement section would occur 1 ft from the milled section.
- d. The pavement buildup within the right of way, including trench repair, should be specified to meet the major residential street requirements or the existing pavement section, whichever is thicker.
- e. A typical section through the sidewalk, esplanade, and proposed curbing, to the pavement joint in the right of way should be provided, specifying materials, layer thickness, slopes, etc.
- f. Some elevations and orifice sizes conflict with the stormwater model.
- g. The OCS detail appears to show a slab under the barrel section. Is that the intent?

6. C-8.0 - Landscaping Plan

- a. A tree is shown directly over the proposed sewer service. One or the other should be relocated to avoid the conflict.
- b. Does the city have any issues with maintaining the proposed trees in the right of way?

We do not believe that these comments, which are generally technical in nature, will significantly impact the overall design concept, and that they could be satisfactorily addressed at the time of the final plan submission, if the planning board and you concur. If you have any questions, or require additional information, please do not hesitate to contact me.

Sincerely,
Site Design Associates

A handwritten signature in black ink, appearing to read "Tom Saucier", with a stylized flourish at the end.

Tom Saucier, P.E.
President



November 22, 2023

Project #20-68

David Galbraith, City Planner; Director of Planning & Development
City of Biddeford
205 Main Street
Biddeford, ME 04005

**Subject: Berry Park – Proposed 10-Unit Building
Site Plan Submission**

Dear David:

On behalf of Everybody Loves Raymond St, LP, attached are a site plan and supporting information for a proposed 10-unit residential building with associated infrastructure on Raymond Street in Biddeford. The following narrative includes information on the existing project site and the proposed development.

EXISTING PROJECT SITE

The project site is approximately 5.66 acres in size and is identified as Lot 108 on Biddeford Tax Map 29. The site is owned by Berry Park Apartments, LLC and is located in the R2 Multi-Family Residential Zoning District.

The project is within Berry Park, an existing 36-unit affordable housing development located on Raymond Street in Biddeford. The development was constructed in the early 1970's and includes 18 duplex buildings.

Berry Park is bisected by Raymond Street, a 30'-wide (+/-) paved public street with bituminous curbing and sidewalks on both sides. The existing duplexes are located along both sides of Raymond Street, approximately 20' to 30' from the public right-of-way.

The buildings are served by public water and sewer services located in Raymond Street and overhead electric and telecommunications services fed from utility poles, several of which include cobra-head style street lights.

The location of the proposed building is the southern corner of the Berry Park parcel, on the south side of Raymond Street. The project site is approximately 0.6 acres in size and is comprised of mowed grass and unmaintained shrub vegetation.

PROPOSED PROJECT

The applicant is proposing to construct a new 2-story, 10-unit residential building with associated site improvements. The project will be financed through the Maine State Housing Authority's (MSHA) Low Income Housing Tax Credit (LITEC) program and will provide housing for low-income renters.

The project will connect to the public water and sewer systems, both of which exist in the Raymond Street right of way. A fire hydrant is located directly across Raymond Street from the project site, and the building will feature a sprinkler system for fire protection. Overhead power and telecommunications utilities are located on utility poles along Raymond Street. A new pad mounted transformer will be set on the site and will provide underground power to the new building, and two above ground propane tanks will be installed north of the building.

Stormwater runoff from the site will closely follow existing runoff patterns. Runoff from the site will be collected and detained within underground storage tanks before being discharged to the public storm drain network within Debbie Avenue. More information on stormwater runoff is provided in the Stormwater Management Report provided in Attachment 5.

Site lighting will be comprised of pole mounted LED light fixtures to light the parking lot and building mounted fixtures to light the sidewalk in front of the building. All fixtures will feature cut-off optics to prevent glare and light trespass on abutting properties.

A dumpster for municipal solid waste and recycling will be located in a fence enclosure at the northern end of the parking lot.

In addition to constructing the new 10-unit building, the applicant is planning to renovate the 18 existing duplex buildings, repair paved driveways, and install new landscape plantings throughout Berry Park. These site-wide improvements to the existing development are part of a capital improvement plan for the property and are not part of the Site Plan review.

WAVERS

We are requesting a waiver from Article VI, Section 49-c-3-f parking aisle width requirement reduction from 24' to 22'. Reducing the parking aisle minimum aisle width allows for more space between the parking stalls and the building, which is needed to provide adequate room for ADA maneuverability. In our experience, a 22' drive aisle is adequate for residents to safely maneuver in and out of the stalls.

CLOSURE

We respectfully request to be added to the Planning Board's next available meeting agenda so we may present the project to the Board. In the interim, if you have any questions or require additional information, please contact me.

Sincerely,
TERRADYN CONSULTANTS LLC



Michael Tadema-Wielandt, P.E.
Vice President

cc. Brad Fries, Everybody Loves Raymond St LP

LIST OF ATTACHMENTS

	Application
Attachment 1	Checklist
Attachment 2	Current Deed
Attachment 3	Technical Capability
Attachment 4	Existing Conditions Figures
Attachment 5	Building Plans & Elevations
Attachment 6	Stormwater Management Report
Attachment 7	Ability to Serve Letters
Attachment 8	Financial Capacity
Attachment 9	Existing Photos
Attachment 10	Agency Letters
Attachment 11	Salt Management Plan

DRAWING INDEX

C-1.0	COVER SHEET
1	SURVEY
C-2.0	EXISTING CONDITIONS & DEMO PLAN
C-3.0	SITE PLAN
C-4.0	GRADING, DRAINAGE & EROSION CONTROL PLAN
C-5.0	UTILITY PLAN
C-6.0	SITE DETAILS
C-6.1	UTILITY DETAILS
C-6.2	DRAINAGE DETAILS
C-7.0	PHOTOMETRIC LIGHTING PLAN
C-8.0	LANDSCAPE PLAN

ATTACHMENT 1

APPLICATION & CHECKLIST

**City of Biddeford – Planning Department****Planning Board Application**

P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

Type of Application:

☐ Shoreland Zoning Permit ☒ Site Plan Review ☐ Extraction
☐ Conditional Use Permit ☐ Subdivision ☐ Private Way
☐ Other: _____

Applicant Information:

Name: Everybody Loves Raymond St LP
 Mailing Address: 17 South Street, 3rd Floor
 Telephone: 207-780-0223
 Email: brad@northlandus.com
 What is your legal interest in the property?
☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: Berry Park Apartments LLC
 Mailing Address: 17 South Street, 3rd Floor
 Telephone: 207-780-0223
 Email: brad@northlandus.com

Agent's Information:

Name: Michael Tadema-Wielandt, P.E.
 Mailing Address: 565 Congress Street Suite 201
 Telephone: 207-632-9010
 Email: mtw@terradyconsultants.com

Engineer/Surveyor's Information:

Name: Michael Tadema-Wielandt, P.E.
 Mailing Address: 565 Congress Street Suite 201
 Telephone: 207-632-9010
 Email: mtw@terradyconsultants.com

Project Location and Lot Information:

Street Address: 27-81 Raymond St Drainage Watershed: West Brook
Tax Map: 29 Lot: 108
Current Zoning: R2 Shoreland Zoning: _____
 Size of Lot: 5.66 (x) acres () s.f. Lot Frontage: 785
 Existing Use of Property: 36 unit development, including 18 duplexes

Property currently serviced by:

☒ City Road ☒ Public Sewer ☒ Public Water ☒ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☒ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ☐ (Yes) ☒ (No) if yes attach information

Is the project within the 100-year floodplain? ☐ (Yes) ☒ (No) if yes attach information

Do you plan to bring fill onto the lot? ☐ (Yes) ☒ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

Construction of a new 10-unit building with associated parking & infrastructure

Property to be Serviced by:

☒ City Road ☒ Public Sewer ☒ Public Water ☒ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ☐ Private Hauler

Limits of Disturbance: 21,400 () acres (x)s.f.

Net change in impervious cover: 14,400 () acres (x)s.f.

Is this project part of a larger project? ☒ (Yes) ☐ (No)

Is the project proposing a new Private or Public Road? ☐ (Yes, Private) ☐ (Yes, Public) ☒ (No)

Is this project within the Urbanized Area/MS4 (see [City Drainage Map](#)) ☒ (Yes) ☐ (No)

Is the project proposing any Stormwater facilities/BMPs? ☒ (Yes) ☐ (No)

Will a Traffic Movement Permit (TMP) be required?: ☐ (Yes) ☒ (No)

If in a Shoreland Zone:

Percent of residential lot coverage (Max 20%): _____

Percent of structure expansion (Max 30%): _____

If Subdivision Review, number of lots proposed: _____

If a Private Way is proposed, number of lots served: _____

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: 5,886

Total new square feet paving/parking: 9,030

Waiver Requests (attach details):

1. Article V1, Section 49-C-3-f parking aisle width reduction from 24' to 22'
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

- A. Letters of Approval
 - ☐ Fire Department – Contact Chief or Deputy Chief – 282-9986
 - ☐ Ability to Serve for Water Service – Maine Water – 282-1543
 - ☐ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
 - ☐ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127
- B. Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.
- C. Photographs of Site.
- D. Architectural renderings/drawings of proposed buildings, as required.
- E. Engineering Plans, as required.
- F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- \$75 Nonrefundable Administration Fee is required for every application.
- Refer to “Attachment A Fees and Charges” of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance?: __ (Yes) X (No)

- **If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.**

Signature of Applicant: _____ Date _____

Signature of Property Owner:  _____ Date 11/15/23

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

- A) PDF OF SIGNED APPLICATION
- B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

- A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - *Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL DRAWING NAME.pdf'*
- B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.
- C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)
 - *All drawings & CAD reference files must be to-scale and within the following coordinate systems:*
 - MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIDUAL DRAWINGS REQUIRING BOARD SIGNATURE
- B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

SITE PLAN REVIEW

XI Attachment 1

City of Biddeford

Site Review Checklist

PROJECT NAME: Berry Park 10-Unit

LOCATION: Raymond Street ZONE: Residential 2

DATE REVIEWED: _____

WAIVERS REQUESTED: _____ GRANTED BY BOARD: _____

Section 5 – Site Design and Development Criteria

	Complete	Incomplete	N/A
A. SITE DEVELOPMENT PLAN.	x		
Sheet size of 24 by 36 inches.	x		
Scale not less than one inch equals 50 feet.	x		
Bar or graphic scale.	x		
Original plan or Mylar.	x		
Submitted ten paper prints.	x		
Plan shall bear the drawing/revision date.	x		
Title.	x		
North point.	x		

BIDDEFORD CODE

	Complete	Incomplete	N/A
Name and address of developer and applicant.	x		
Location/vicinity sketch (one inch equals 80 feet).	x		
A sketch showing existing natural features including:	x		
Watercourses and water bodies, seasonal wet areas.			x
Soil type/location and test borings.	x		
Topographic contours (every five feet for 0% to 3% slope; or every two feet for steeper areas).	x		
The preservation/supplementation of existing dominant vegetation.	x		
Plan view of all buildings.	x		
First floor elevation.	x		
Outline of buildings within 200 feet.	x		
Existing use of abutting property.	x		
The location, width, curbing, and paving of accessways, egress ways and streets within the site for both pedestrian and vehicular use.	x		
Location of off-street parking and loading.	x		
Size and proposed location of water mains and sanitary sewerage facilities with all necessary engineering data.	x		
Size and location of all other existing and proposed public service connections including, without limitations, gas lines, power lines, telephone lines, and fire alarm connections and locations, indicating whether above or below ground.	x		
Type, nature, and composition of all solid, liquid, and gaseous waste, industrial or otherwise, and the location, type, and design criteria of the storage and disposal facilities dealing with such waste.	x		
Location, elevation, and layout of existing and proposed catchbasins and other surface drainage features.	x		
Existing and proposed contours and finished grade elevations as well as the type, extent, and location of existing and proposed landscaping and open space areas which will be retained.	x		

SITE PLAN REVIEW

	Complete	Incomplete	N/A
Location, size, and design of proposed signs and other advertising or instructional devices.	x		
Location and type of lighting for outdoor facilities.	x		
Lines of existing and proposed abutting streets showing width.	x		
Surveyed property lines showing their bearing and distances and monument locations			
Lines and names of all proposed streets, lanes, ways, or easements intended to be dedicated for public or private use.			x
Copy of any covenants or restrictions that are intended to cover all or a part of the land areas to be developed.			x
Limits of wetland areas on the property.			x
Delineate existing zoning boundaries within 1,000 feet of the site on location map.	x		
Stamp and signature of licensed land surveyor.	x		
Stamp and signature of professional engineer.	x		
Stamp and signature of architect.			
Other exhibits or data that the Planning Board may require in order to adequately evaluate proposed development or project; this would include:			
Traffic study.			x
Community fiscal impact study.			x
Drainage study/calculations.	x		
High-intensity soils study.			x
Photographs.	x		

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST

LAST REVISED: 05/17/23

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing submittal information with non-acceptable reasoningwill be rejected.
4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	
Planning Board # (if available):	
Applicant Name/Info:	
Submittal #/Type (Prelim/Final):	
Submittal Date:	

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	GENERAL PLAN REQUIREMENTS				
A	Drawing specific legends (linetypes, hatches, etc.)	YES			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	YES			
C	North arrows, standard engineering scale viewports, dated revision blocks	YES			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	YES			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	YES			
2	COVER SHEET				
A	Project Name & Property Address	YES			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES			
C	Site Location Map	YES			
D	Sheet Set List of Drawings	YES			
E	Tax Map and Lot ID	YES			
F	Zoning & Shoreland Zone Information	YES			
G	Existing Use Description	YES			
H	Proposed Use Description	YES			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variiances requesting	YES			
J	Name of Drainage Watershed	YES			
K	Within the MS4 Urbanized Area (Yes/No)	YES			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES			
M	Within the 100-year Flood Zone (Yes/No)	YES			
N	Public Road Proposed (Yes/No)	YES			
O	Private Road Proposed (Yes/No)	YES			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine’s Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	YES			
Q	Public Storm Drain Connection (Yes/No)	YES			
R	Limits of Disturbance in acres	YES			
S	Pervious Land Cover square footage, existing and proposed	YES			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES			
U	Building Roof square footage, existing and proposed	YES			
V	Assigned Planning Board Number	YES			
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)	YES			
3	EXISTING CONDITIONS PLAN				

A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	NO	INFORMATION PROVIDED ON SURVEY		
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	NO	INFORMATION PROVIDED ON SURVEY		
C	Property & Right-of-Way Lines	NO	INFORMATION PROVIDED ON SURVEY		
D	Boundary line information (bearings, distances, etc.)	NO	INFORMATION PROVIDED ON SURVEY		
E	Property pin and monumentation locations	NO	INFORMATION PROVIDED ON SURVEY		
F	Existing easements with proper ownership identified	NO	INFORMATION PROVIDED ON SURVEY		
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	NO	INFORMATION PROVIDED ON SURVEY		
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	NO	INFORMATION PROVIDED ON SURVEY		
I	100-year Flood Zone Limits & Elevation	NO	INFORMATION PROVIDED ON SURVEY		
J	USDA-NRCS Soil Boundaries and Labels	NO	INFORMATION PROVIDED ON SURVEY		
K	Existing contours with adequate contour labelling; minimum 1' contour interval	YES			
L	Existing building FFEs annotated	NO	NO EXISTING BUILDING ARE LOCATED WITHIN THE PROJECT AREA		
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	NO	INFORMATION PROVIDED ON SURVEY		
N	Existing buildings & structures	YES			
O	Existing pavement areas & number of parking spaces	YES			
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	YES			
Q	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters,	YES			
R	Existing signage and striping	YES			
S	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES			
T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES			
U	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES			
W	Location of any borings, drinking wells, and monitoring wells	YES			
4	SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN				
A	Limits-of-disturbance outlined and acreage annotated	YES			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	NO	THERE ARE NO NATURAL RESOURCES MAPPED WITHIN THE PROPOSED PROJECT		
C	100-year Flood Zone Limits	NO	THE PROJECT IS NOT LOCATED WITHIN THE 100-YEAR FLOOD ZONE		
D	Callout existing site features to be demolished/removed/replaced	YES			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES			
F	Hatch existing buildings and pavement to be removed	YES			
G	Construction Entrance location(s)	NO	EROSION CONTROL PRACTICES ARE OUTLINED IN C-6.0		
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	NO	THE SITE IS DRAINS INTERNALLY, EROSION CONTROL PRACTICES ARE OUTLINED IN C-6.0		
I	Stockpile and staging area(s) identified (with proper perimeter control)	NO	EROSION CONTROL PRACTICES ARE OUTLINED IN C-6.0		
J	Inlet protection location(s)	YES			
K	Note requiring contractor to implement dust control measures throughout construction	YES			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	YES			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping	YES			
N	If large development is proposed with an extensive underground stormwater conveyance network, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations	NO	THE PROPOSED STORMWATER NETWORK IS NOT LARGE IN SCALE		
5	SITE PLAN/SUBDIVISION PLAN				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	YES			
B	Existing property and right-of-way lines	YES			
C	Proposed subdivision lot lines and labels	YES			
D	Required Zoning Setbacks shown with dimension and annotation	YES			
E	Bulk requirement summary table (zoning/parking calculations)	YES			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES			
G	100-year Flood Zone Limits	YES			
H	Proposed building outlines, door entrances and loading docks	YES			
I	Proposed building labels	YES			
J	Proposed road extents; provide clear annotation if roads will be public or private	YES			
K	Proposed parking and accessible parking locations; annotate parking space counts	YES			
L	Proposed signage, parking striping, and traffic striping	YES			

M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	YES			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	YES			
P	Proposed landscaping; detailed landscaping design should be on separate plans	YES			
Q	Designated snow storage areas	YES			
R	Proposed dumpster locations and trash removal access	YES			
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	YES			
U	Road centerline stationing shown, labelled every 0+50' with curve data	NO	NO ROAD IS PROPOSED		
V	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	NO	NO ROAD IS PROPOSED		
W	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO	NO ROAD IS PROPOSED		
X	Planning Board signature block for final recording	YES			
6	GRADING PLAN				
A	Partial Grading Plans needed for any viewport greater than 1"=20'	YES			
B	Limits-of-disturbance outlined and acreage annotated	YES			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFE)	YES			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES			
F	Detailed grading for all ditches, swales, outfalls, and riprap	YES			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES			
H	Existing spot elevations for all asphalt and curb tie-in locations	YES			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	NO	THE PROJECT AREA HAS NO MAPPED NATURAL RESOURCES		
J	100-year Flood Zone Limits	NO	THE PROJECT IS NOT LOCATED WITHIN THE 100-YEAR FLOOD ZONE		
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval: low/high points, PC/PT, road centerline, edge-of-asphalt	YES			
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks	YES			
M	Proposed spot elevations for all parking and drive aisle geometry points	YES			
N	Proposed spot elevations for all building corners and door-entry locations	YES			
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)	NO	NO RETAINING WALLS OR LOADING DOCKS ARE PROPOSED		
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	YES			
Q	Proposed % slope arrows for all ADA parking spaces and sidewalks	YES			
R	Proposed longitudinal % slope arrows for drainage ditch centerlines	YES			
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	YES			
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)	YES			
7	ROAD PROFILES (if public/private road proposed)				
A	Existing surface; dashed and screened	NO	NO ROAD IS PROPOSED		
B	Proposed surface; continuous and bold	NO	NO ROAD IS PROPOSED		
C	Corresponding centerline stationing and curve data annotation	NO	NO ROAD IS PROPOSED		
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)	NO	NO ROAD IS PROPOSED		
E	Horizontal and vertical scale bars	NO	NO ROAD IS PROPOSED		
F	Clear annotation if proposed road will be public or private	NO	NO ROAD IS PROPOSED		
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	NO	NO ROAD IS PROPOSED		
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO	NO ROAD IS PROPOSED		
8	UTILITY PLAN				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES			

	D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas , electric , telecom , lighting)	YES			
	E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES			
	F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES			
	G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES			
	H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES			
	I	Flow directional arrows for storm & sewer pipes	YES			
	J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES			
	K	All storm drains must be sized to convey the 25-year storm	YES			
	L	Sewer force main sizes and invert elevations	NO	ONLY GRAVITY CONNECTIONS ARE PROPOSED		
	M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W)	NO	NO SEWER PUMP STATION IS PROPOSED		
	N	Grease trap & oil-water separator locations, sizes, elevations	NO	NO GREASE TRAPS OR OIL SEPARATORS ARE PROPOSED		
	O	Water, gas, electric, and telecom sizes labelled	YES			
	9	UTILITY PROFILES				
	A	Utility profiles for all gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)	NO	THE PROJECT HAS NO PROPOSED ROADS, UTILITY INFORMATION IS DISPLAYED ON THE UTILITY PLAN		
	B	Existing surface; dashed and screened	NO	THE PROJECT HAS NO PROPOSED ROADS, UTILITY INFORMATION IS DISPLAYED ON THE UTILITY PLAN		
	C	Proposed surface; continuous and bold	NO	THE PROJECT HAS NO PROPOSED ROADS, UTILITY INFORMATION IS DISPLAYED ON THE UTILITY PLAN		
	D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES			
	E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES			
	F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance	YES			
	G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated	YES			
	H	Known ledge or groundwater elevations	NO	THE PROJECT HAS NO PROPOSED ROADS, SOIL TEST PITS ARE INCLUDED IN THE APPLICATION		
	I	For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified	NO	THE PROJECT HAS NO PROPOSED ROADS, UTILITY INFORMATION IS DISPLAYED ON THE UTILITY PLAN		
	J	For storm outfalls, include riprap sizing and grading extents	YES			
	K	Horizontal and vertical scale bars	NO	THE PROJECT HAS NO PROPOSED ROADS, THE UTILITY PLAN IS SHOWN AT 10 SCALE		
	10	DETAILS				
	A	Road section detail, including pavement & gravel depths	YES			
	B	Sidewalk, paver, crosswalk, and any other pavement section details	YES			
	C	Pavement sawcut detail	YES			
	D	Utility trench/backfill detail	YES			
	E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES			
	F	Signage, striping, and ADA details	YES			
	G	E&S notes and details; only show applicable/proposed measures	YES			
	H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES			
	I	Storm outfall & riprap details	YES			
	J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	YES			
	K	Pump station, grease trap, and oil-water separator details	NO	NONE PROPOSED		
	L	Conduit section details	YES			
	M	Miscellaneous details (as needed)	YES			
	11	LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS				
	A	As required by ordinance; at a minimum: locations, counts, and species/models must be	YES			
	B	Landscaping & lighting details	YES			
	12	DOCUMENTS/REPORTS/CALCULATIONS				

A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. <u>Site Punchlist/As-Built Inspections post-construction</u>	YES			
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. <u>Four City-standardized stormwater summary tables</u>	YES			
C	An approved ‘Sewer Ability-to-Serve Letter’ from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine’s Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	NO	WE HAVE SUBMITTED THE PROJECT TO THE CITY FOR REVIEW, WE ANTICIPATE THEY WILL CONFIRM ABILITY TO SERVE IN THE NEXT FEW WEEKS		
D	A Performance Guarantee Cost Estimate utilizing Planning’s template	YES			
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	NO	THE PROJECT DOES NOT NEED SLODA APPROVAL		
F	<u>25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches) via the rational method; starting tailwater conditions/documentation must be clearly identified</u>	YES			
G	<u>If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies</u>	YES			
H	<u>Sizing calculations for any SWM water quality BMP or detention facility</u>	YES			
I	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed iii. Signed Property Owner Agreement: including the current property owner’s contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	YES			
J	<u>Salt Management Plan</u>	YES			
K	<u>Sewer pump station sizing calculations</u>	NO	NO SEWER PUMP STATION IS PROPOSED		
L	<u>Sewer pump station maintenance plan</u>	NO	NO SEWER PUMP STATION IS PROPOSED		
M	<u>Grease trap sizing calculations</u>	NO	NO GREASE TRAPS ARE PROPOSED		
N	<u>Homeowner Association (HOA) agreement for any private road serving two (2) lots or more</u>	NO	NO PRIVATE ROADS ARE PROPOSED		
O	<u>Summary list & copy of any required DOT/DEP/USACE permits & approvals</u>				

ATTACHMENT 2

CURRENT DEED

SHORT FORM WARRANTY DEED

VILLAGE PARK ASSOCIATES LIMITED PARTNERSHIP, a Maine limited partnership having its principal place of business in Gorham, Cumberland County, Maine (the "Grantor"), FOR CONSIDERATION PAID, grants to BERRY PARK APARTMENTS, LLC, a Maine limited liability company having a mailing address in c/o Northland Enterprises, LLC, One City Center, 4th Floor, Portland, ME 04101 (the "Grantee"), WITH WARRANTY COVENANTS, the following described real property located in the City of Biddeford, County of York and State of Maine:

SEE EXHIBIT A ATTACHED HERETO AND MADE A PART HEREOF.

Being the same premises conveyed by Arlene Holloway to John E. Pearson and York-Cumberland Housing Development Corporation, General Partners under a limited partnership d/b/a Village Park Associates, dated November 21, 1973 and recorded in the York County Registry of Deeds in Book 2119, Page 896. The Grantor herein is the same limited partnership as that identified in the foregoing deed.

IN WITNESS WHEREOF, the said Village Park Associates Limited Partnership has caused this instrument to be executed under seal this 17th day of October, 2002.

WITNESS:

VILLAGE PARK ASSOCIATES LIMITED PARTNERSHIP

BY: York-Cumberland Consulting Services, Inc., General Partner

By: Dana Totman
Dana Totman, its President

BY: Berry Park Housing Corporation, General Partner

By: Dana Totman
Dana Totman, its President

STATE OF MAINE
CUMBERLAND, SS.

October 17, 2002

Then personally appeared the above-named Dana Totman, President of York-Cumberland Consulting Services, Inc, and Berry Park Housing Corporation, both being the general partners of Village Park Associates Limited Partnership, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporations and

MAINE R.E. TRANSFER TAX PAID

M. S. S. S. S.
TO
BOTH

limited partnership.

Before me,


Attorney-At-Law Notary Public
Print Name: M - A - SELINGER 
My Commission Expires: _____

O:\MAS\99475 York-Cumberland\Sale of Berry Park\Warranty Deed.doc

EXHIBIT A

All that certain lot, piece or, parcel of land situated in the City of Biddeford, County of York and State of Maine, together with the buildings and improvements thereon, and bounded and described as follows:

Beginning at an iron pipe on the southeasterly sideline of Hill Street in Biddeford said point being the northerly corner of a proposed reserved street called Hanna Street, as shown on a plan of Sunset Heights, dated August 28, 1935, and recorded in the York County Registry of Deeds in Plan Book 11, Page 76; thence, South 35° 11' 35" East one hundred and two and seventy hundredths (102.70) feet to a point; thence, North 54° 48' 25" East one hundred and no hundredths (100.00) feet to an iron pipe; thence, South 35° 11' 35" East two hundred and sixty-seven and forty-three hundredths (267.43) feet to a point; thence, North 52° 13' 32" East one hundred and ten hundredths (100.10) feet to Hubert Street; thence, South 35° 11' 35" East by said Hubert Street forty and three hundredths (40.03) feet to an iron pipe; thence, South 52° 13' 32" West two hundred and sixteen hundredths (200.16) feet to a point; thence South 35° 11' 35" East two hundred and sixteen hundredths (200.16) feet to a point; thence, continuing along the same course by the southwesterly end of Raymond Street forty and three hundredths (40.03) feet to a point; thence, South 37° 24' 16" East eighty-nine and thirty-five hundredths (89.35) feet to a point; thence, South 53° 04' 00" West three hundred and twenty-six and eighty seven hundredths (326.87) feet to an iron pipe; thence, North 37° 24' 16" West by the subdivision known as Country Club Estates recorded in the York County Registry of Deeds in Plan Book 54, Page 20; six hundred and twelve and forty-four hundredths (612.44) feet to other land of Oscar J. Gauthier, et ux; thence, North 52° 48' 23" East by other land of said Gauthier's two hundred and six and sixty-eight hundredths (206.68) feet to an iron pipe; thence, North 35° 11' 35" West by other land of said Gauthier's six and twenty-six hundredths (6.26) feet to an iron pipe; thence, North 54° 29' 42" East one hundred and no hundredths (100.00) feet to a point; thence, North 35° 11, 35" West by the proposed street, known as Hanna Street one hundred and twenty-six and sixty-five hundredths (126.65) feet to the southeasterly sideline of Hill Street; thence, North 52° 49' 43" East by said Hill Street forty and three hundredths (40.03) feet to the point of beginning, containing 5.67 acres, subject to such rights as may exist to the streets shown on the plan of Sunset Heights previously mentioned.

O:\MAS\99475 York-Cumberland\Sale of Berry Park\Warranty Deed.doc

RECEIVED YORK S.S.

2002 OCT 21 PM 12: 16

Murray Plumb & Murray
PO Box 9785
Portland ME 04104
328-
(6)

ATTACHMENT 3

TEAM EXPERIENCE & REFERENCES



The Developer

Northland Enterprises:

Northland Enterprises, LLC ("Northland") is a commercial real estate development and management company based in Portland, Maine. Founded in 2001 by Rex Bell and Bobby Monks, the company prides itself on creative approaches to complex projects, finding value and opportunity for each project's distinct set of stakeholders. Northland has a long-term hold philosophy when looking at projects and its principals have experience in varied asset classes to include the development of office, retail, multifamily and industrial facilities.

Northland has a successful history of developing projects for specific tenants and establishing long-term relationships that provide opportunities for their tenants to grow their businesses while meeting conservative financial thresholds required for Lenders and Equity investors. Northland seeks out opportunities with multiple phases, providing near term stability with long term growth opportunities.

Northland has an affiliated management company (Northland Management Corp) that manages much of the Northland portfolio but outsources their Low-Income Housing Tax Credit (LIHTC) and Section 8 apartment management to Realty Resources. Realty Resources manages Berry Park Apartments today for the current ownership group and will manage the complex after the Acquisition Rehabilitation on 27-81 Raymond St, Biddeford, ME.

Northland Portfolio:

Northland and Northland Management Portfolio					
Address	Type	Commercial SF	Housing Units	Managed	Owned
12 Bartlett Dr. Gorham	Industrial	25,000		N	Y
1601 Congress, Portland	Medical	27,783		Y	Y
49 Raceway Dr, Gorham	Industrial	79,241		N	Y
829 Congress, Portland	Housing		12	N	Y
63 Marginal Way, Portland	Office	24,758		Y	Y
1945 Congress, Unit 2	Office	25,100		Y	Y
1945 Congress, Unit 1	Medical	20,870		Y	N
443 Congress, Portland	Housing / Medical / Office	15,840	28	Y	Y
200 Larabee Rd., Westbrook	Retail	12,680		Y	Y
17 South Street, Unit 2	Office Condo	1,480		Y	Y
17 South Street, Unit 3	Office Condo	2,400		Y	Y
79-87 North Main St, White Rvr Junct VT	Medical	6,000		N	Y
61 Washington St, Sanford	Housing/ Retail / Office	22,000	36	Y	Y
380 Cumberland Ave, Portland	Mixed Commercial	28,987		Y	Y
340 Cumberland Ave, Portland	Data Center	44,139		Y	N
622 Congress St, Portland	Office	19,674		Y	Y
274 Western Ave, Augusta	Retail	41,234		Y	N
27-81 Raymond St. Biddeford	Housing - Section 8		36	N	Y
231 New Gorham Rd. Westbrook	Housing - LIHTC		26	N	Y
151 Portland Rd. South Berwick	Housing - Elderly Section 8		22	N	Y
Totals		397,186	160		

Robert C. S. Monks Portfolio:

▪ Monks O'Neil Portfolio	
▪ Entities	11
▪ Properties	6
▪ The Szanton Company Portfolio	
▪ Entities	18
▪ Properties	10
▪ Total apartments	512
▪ The Eagle Point Companies Portfolio	
▪ Entities	4
▪ Properties	18

Recent Development Projects and Acquisitions



- **12 Bartlett Rd:** 25,600 SF standalone industrial/office mixed use building leased in full to Clean O’Rama in a sale/leaseback for 10 years. Part of a 1031 Exchange related to the sale of 340 Cumberland Ave, Portland, ME. Total acquisition budget of \$4mm owned by an affiliated entity to Northland and managed by Northland Management Corp.



- **1601 Congress St:** 25,036 SF standalone medical office building in Portland, Maine purchased with 11,253 of vacant space. Negotiated lease and tenant improvement allowance with Maine Medical Center for all vacancy prior to financial closing to bring site to 100% occupancy. Total acquisition and

development budget of \$5mm owned by an affiliated entity to Northland and managed by Northland Management Corp.



- **49 Raceway Drive:** Known as the “Harvey Performance Project”, this standalone 79,000sf office and manufacturing facility Gorham, Maine was completed in July 2020. Based on the specific requirement of its tenant Harvey Performance, Northland developed a state-of-the-art mixed-use building tailored to meet the needs of Harvey’s high tech manufacturing process and aid in employee recruitment and retention. The development budget totaled \$25mm and the building is owned by a Northland entity and master-leased for 15 years to Harvey Performance with a pre-approved expansion area of 40,000 sf incorporated into the site design.



- **1945 Congress Street:** Known as the “Elks Site”, this 7-acre site is located at the exit of the Portland Jetport. In 2018, Northland completed the first phase of this project which required three years of municipal approvals to obtain a contentious zone change, and site plan approval. These approvals allowed the acquisition of the site and development of a new 25,000sf headquarters building for Clark Insurance, and a 20,000sf building for a local medical practice group. A second phase of the project could allow for an additional 20-25,000 office building. Phase one of this project totaled \$16.55m with phase two projected to be +/- \$6-\$10mm.



- **443 Congress Street:** In 2018, Northland completed the historic rehab and redevelopment of this prominent seven-story office building in

downtown Portland. Northland purchased 443 Congress Street in 2011. At that time, the building was 30% occupied, and within 6 months, the building was fully leased. In 2015, a major tenant who was occupying the building at the time of acquisition decided to not renew its lease, leaving four floors vacant. Northland obtained a change of use approval to allow for a National Park Service certified historic rehab of the building resulting in 28 apartments on the upper four floors of the building. The redevelopment totaled \$7mm and all four floors of apartments have been master-leased by the Maine College of Art.



- 1 Marginal Way/Century Plaza:** 2015 Acquisition of four properties in West Bayside, Portland Maine. Phase one of a multi-phased project was completed in April 2016 with the total renovation of the former Century Tire complex for retail use. Tenants include Chipotle, T-Mobile, and Orange Theory Fitness. The second phase of the project is in the planning phase and is anticipated to feature a 12-story 100,000sf office tower with integrated parking at 1 Marginal way, currently the site of an Enterprise Car Rental office. Total development size for phase one of the project was \$10mm, with the second phase totaling roughly \$25mm.



- 622 Congress Street, Portland:** In 2015, Northland purchased 622 Congress Street in Portland, Maine. The building was home to the US Postal Service and Mercy Hospital and featured a 26-car parking lot. Upon Mercy's vacating of their space in spring of 2016, Northland completed a full renovation of the upper floors and all building systems, renewing the USPS lease and signing long term leases with established local tenants and a parking lot operator resulting in a doubling of the building's original revenues at the time of purchase.



- **200 Larrabee Road, Westbrook:** In 2015, Northland acquired and redeveloped 200 Larrabee Road in Westbrook, Maine. Well located, but underutilized, the former fitness center underwent a gut renovation to create a new 12,600 square foot Goodwill retail store, which opened in June 2015. Total development size of \$3mm



- **Sanford Mill #1:** Historic redevelopment of the 66,000 SF Sanford Mill into 36 moderate-income (50%/120% AMI) apartments and 22,000 SF of commercial space. Placed in service in August 2013, fulfilling a 7-year commitment to the City of Sanford to redevelop the property and begin the revitalization of the Sanford Mill-yard. Development size \$12mm and financed through State and Federal tax credits, debt, State and Federal grants, and TIF financing. Northland is currently in the planning/permitting stages of converting 9,000sf of existing commercial space on the lower level into 7 new apartments. This work will commence in Spring 2022 and be complete by Fall 2022.



- **Journal Square, Augusta Maine:** Northland acquired the former Kennebec Journal Building in Augusta in 2011. The existing 55,000 square foot building was demolished and in its place was built a regional headquarters for Bangor Savings Bank and a flagship Goodwill Store. In 2014, a third building with long term leases with US Cellular, Men's Wearhouse, Supercuts and Five Guys was completed. In 2015, a fourth and final building housing Starbucks Coffee was built on the site. Total development size was \$11.5 mm using traditional debt and equity. This property was sold in 2017 and is still managed by Northland Management Corp.



- Baxter Library, Portland Maine:** In 2011, Northland completed the comprehensive \$4.5 million Historic rehab of the 24,000 square foot Baxter Library project in downtown Portland Maine. Baxter became the new headquarters for the Via Group, LLC, one of the top 100 advertising companies in the country, and one of Maine's most successful and dynamic companies. Total development size of \$4.5mm financed with State and Federal historic tax credits, TIF financing, city grant money, and traditional debt and equity. This property was sold in 2017 to VIA.

Other Northland Properties:



63 Marginal way – 24,758 SF Class A Office Building in Portland, Maine



340 Cumberland Avenue – 44,139 SF Data Center Building in Portland, Maine



380 Cumberland Avenue – 28,821 SF Office/Data Center Building in Portland, Maine



17 South St – Northland’s home office in Portland, Maine



5 Senator Way – Land lease to Bangor Savings Bank who built a 15,000sf building on the site In Augusta, Maine



11 Shepley – 40 Unit Market Rate Apartment Building in Portland, Maine, pre-negotiated master lease with Maine College of Art – Sold as part of a 1031 Exchange



Buffalo Creek

Apartments – 104 Unit Market Rate Apartments in West Seneca, New York – Sold in early 2020



Larose Gardens – 26 Low Income Housing Tax Credit

Apartments in Westbrook, Maine



36 Unit Family Section 8 Apartments in Biddeford, Maine



Berry Park Apartments –



Apartments in Berwick, Maine

Grant House Apartments - 22 Unit Elderly Section 8



829 Congress Street – 12 Unit Apartment building leased to a local Non-Profit in Portland, Maine

The Developer Project Team

Josh Benthien

Roles:

- *Developer- CEO / Managing Partner, Northland Enterprises LLC*
- *Property Management – Vice President, Northland Management Corp*
- *Member of GP Entity and Development Team for this project*

Josh Benthien grew up in New Hampshire and attended Colgate University, earning a BA in Philosophy in 2001. Josh has worked in real estate since 2003, first as a commercial real estate broker in New York City and since 2008, running a commercial development firm in Portland, Maine as Managing Partner and Chief Executive Officer at Northland Enterprises. Under Josh's leadership, Northland has developed a half million square foot portfolio with an aggregate value of over \$100mm comprised of mixed use, office, retail, and industrial space throughout Maine. His projects have involved new construction, infill development and historic rehabilitation—with

a particular focus on small and medium-sized Maine businesses and owner build-to-suit initiatives and public private partnerships.

At Northland, Josh is responsible for the overseeing the day-to-day operations of the development company and leads the efforts to source Northland's new projects and requisite debt and equity financing. Josh is also responsible for lease negotiations and tenant sourcing. At Northland Josh has leveraged his background in commercial real estate brokerage to focus on developing marquee commercial office and retail properties throughout Maine. Josh and Rex have proven to be a successful team in finding unique and creative reuses of challenging projects, in many cases, Northland has been an innovator in leveraging private investment and conventional debt with State and Federal Historic Tax Credit equity, Tax Increment Financing and grant funding.

Rex Bell

Roles:

- *Developer- Founding Partner, Northland Enterprises, LLC*
- *Property Management- President, Northland Management Corp*
- *Member of GP Entity and Development Team for this project*

In 2001, Rex Bell founded Northland Enterprises with Bobby Monks. Since then, Northland has gained regional acclaim based on a successful history of successfully developing complex projects and currently has a portfolio of 15 investment entities. In 2011 Rex and Partner Josh Benthien formed Northland Management Corp to oversee the in-house property management for the commercial properties within the Northland portfolio. Currently Northland Management manages all the commercial and mixed-use properties in the Northland portfolio. Northland outsources the management of their income restricted residential projects.

Rex's ability to see, analyze, manage, and deliver successful development projects comes from 25 years of direct experience in virtually every aspect of the real estate business. In 1988, following his retirement from his role as a coach of the US National Ski Jumping Team, Rex and his brother formed a Vermont based construction, property management, and real estate brokerage company. The company built new homes, did renovation work and acquired properties in need of re-positioning and had an ownership interest in more than 50 investment properties. In addition, the company provided property management and disposition services for two prominent Vermont banks. Over seven years, the company participated in the management and disposition of approximately 700 bank owned (REO) assets with sales volumes in excess of \$70 million.

Robert C.S. Monks

Roles:

- *Developer- Former (Founding) Partner, Northland Enterprises, LLC*
- *Member of GP Entity for this project*

A founding partner of Northland Enterprises in 2001, Bobby is an entrepreneur and real estate developer with expertise in innovative public/private partnerships that serve the community and

foster economic growth. Experience developing, leading, and growing 19 businesses in financial services, real estate, technology, and communication sectors. Bobby has founded five different real estate development and management companies each with a different emphasis, servicing local and national markets.

As Chairman, Bobby led Institutional Shareholder Services to its position as the top international provider of proxy voting and corporate governance services and sold the company in 2007 for \$550 million. Most recently, along with his partner Dwight Allison, Bobby founded Maine Fiber Company. Following years of growth, they recently sold (May 2019) the dark fiber leasing company which had supported telecom carriers in Maine with a mission to enhance fiber access to rural regions of the state through the “three ring binder” project.

Bobby is highly regarded for creating strategic partnerships that promote shared ownership and tether profitability to economic and social development in communities across the country with the underlying belief that active ownership is the key to successful ventures.

Ellen Thompson

Roles:

- *Developer- CFO, Northland Enterprises, LLC*
- *Property Management- Partner/CFO, Northland Management Corp*
- *Member of GP Entity and Development Team for this project*

Ellen Thompson joined Northland in February 2011 and has served several roles within the growing company. With her addition to the team, Northland began self-managing their affiliated properties through the creation of Northland Management Corp, employing a staff of nine property management professionals. Ellen now oversees day-to-day operations of the leasing, accounting, and asset management staff alongside Brad Fries. Ellen brings her expertise in the financial aspects of property management to the predevelopment financing and underwriting of Northland’s complex development projects.

Ellen grew up in the Bangor, Maine area moving to the Portland area in 2005. She attended Husson University where she earned a BA in Accounting and an MBA. Ellen’s previous employment in property management includes nearly four years in the accounting department of Dirigo Management Company, a third-party property management company based in Portland, Maine. In this position she worked on several Northland developments including complex multi-source tax credit financed properties such as Baxter Library and many Low-Income Tax Credit Housing Projects and Section 8 residential projects such as Berry Park and The Grant House.

Ellen’s previous employment in Property Management and Accounting gave her the experience necessary to grow into the role of Chief Financial Officer at Northland. Ellen has worked in all aspects of the real estate development and management process at Northland ranging from purchase and sales, exchanges, development and construction, compliance and reporting, and day-to-day asset Management involving maintenance, financing, accounting, leasing, and tenant relations.

Brad Fries

Roles:

- *Developer - Development Director, Northland Enterprises, LLC*
- *Property Management - Partner/Director of Operations, Northland Management Corp*
- *Member of GP Entity and Development Team for this project*

Brad joined Northland in July 2012 after spending 10 years with a commercial construction firm in Westbrook, Maine. Brad earned his Bachelor of Science degree in Construction Management from the School of Engineering at Roger Williams University in Bristol, RI in 2002. He oversees all aspects of construction and development for Northland's development projects from early pre-development stages of a project all the way through tenant occupancy and punch list. At the management company, Brad oversees all operations and physical assets of the entire property portfolio alongside Ellen Thompson as they supervise the management and maintenance staff.

Brad's experience working for a construction management firm as a project manager and estimator brings a unique skill set to Northland's projects including experience with managing contractors/vendors, design firms, and related consultants. Brad also works closely with Josh to generate detailed construction estimates and conceptual budgets for the hard costs of every project which allows Northland to establish accurate financial models on all their deals.

After years working in the local construction industry, Brad has developed relationships with a variety of local contractors, subcontractors, and vendors which not only can provide a competitive advantage when designing a project, but it also translates over to the property management company regarding maintenance and service contracts for the entire property portfolio.

References

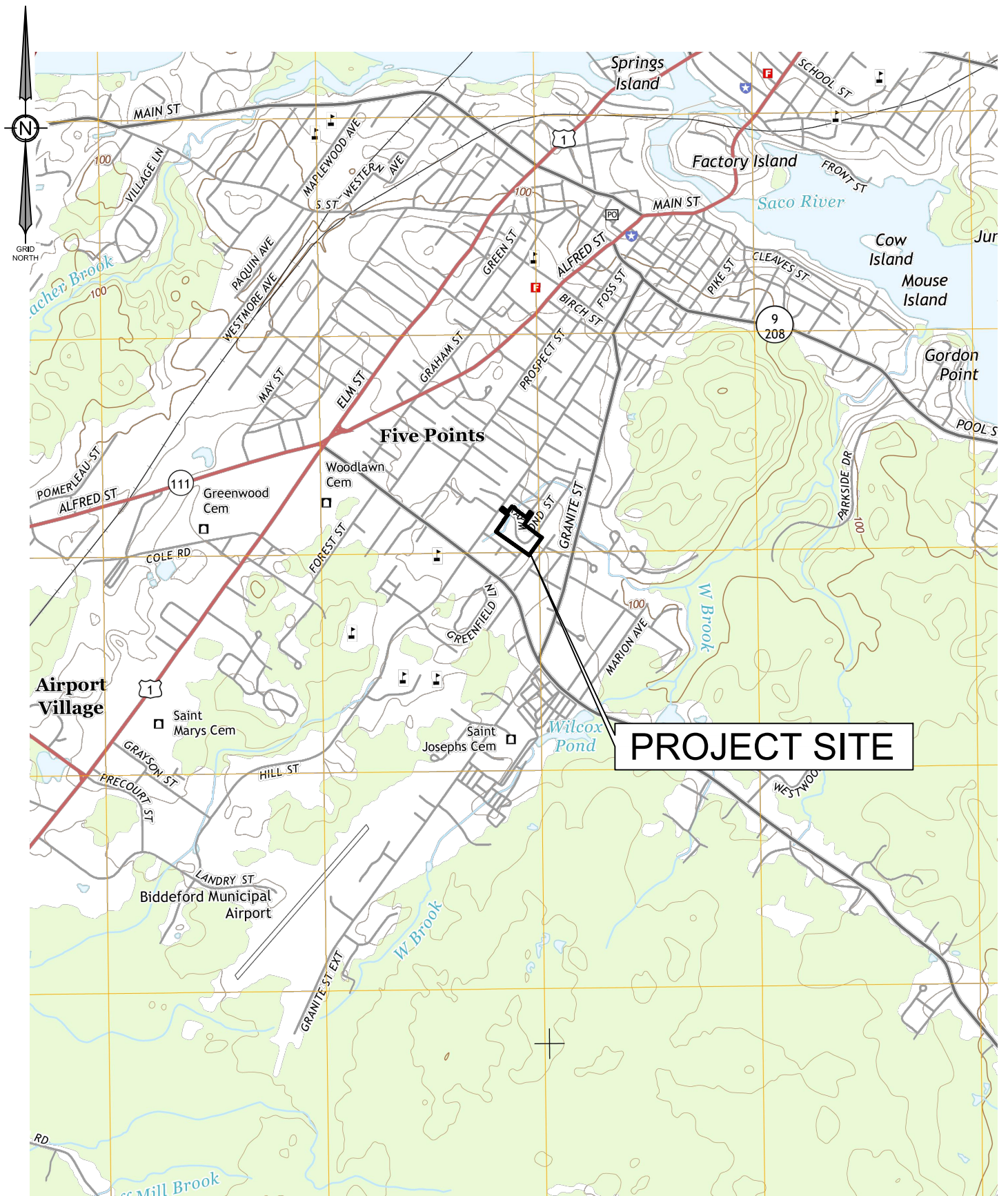
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P xud / \$ o x p e # # P xud #	#	#	#	#	#	Albin Randall & Bennett#
: 8 # \$ h d u c v n h w # #	#	#	#	#	#	130 Middle Street#
S R 1 E r { # : ; 8 # # #	#	#	#	#	#	Portland, ME 04101#
S r u o l g g / P H # # 7 4 3 7 #	#	#	#	#	#	Contact: Matt Pore
G u h z # D 1 # q g h w r q / # v t 1 #	#	#	#	#	#	P: 207-772-1981
S # 5 3 : 0 : : 6 0 8 9 8 4 #	#	#	#	#	#	MPore@arbcpa.com
#						

Archetype, PA
48 Union Wharf
Portland, ME 04101
Contact: Katherine Lermond
P: 207-772-6022
katherine@archetypepa.com

St. Germain
846 Main Street
Westbrook, ME 04092
Contact: John Marchewka
P: 207-591-7000
JohnM@stgermain.com

ATTACHMENT 4

SITE FIGURES



USGS BIDDEFORD QUADRANGLE

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101



Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradyngconsultants.com

PROJECT NO.
20-68
DATE
8/18/2023
SCALE
1" = 2,000'

SHEET
1
OF
1



AERIAL MAP

PROJECT:
 BERRY PARK EXPANSION
 RAYMOND STREET, BIDDEFORD, MAINE
 PREPARED FOR:
 NORTHLAND ENTERPRISES, LLC
 17 SOUTH STREET, 3RD FLOOR
 PORTLAND, MAINE 040101

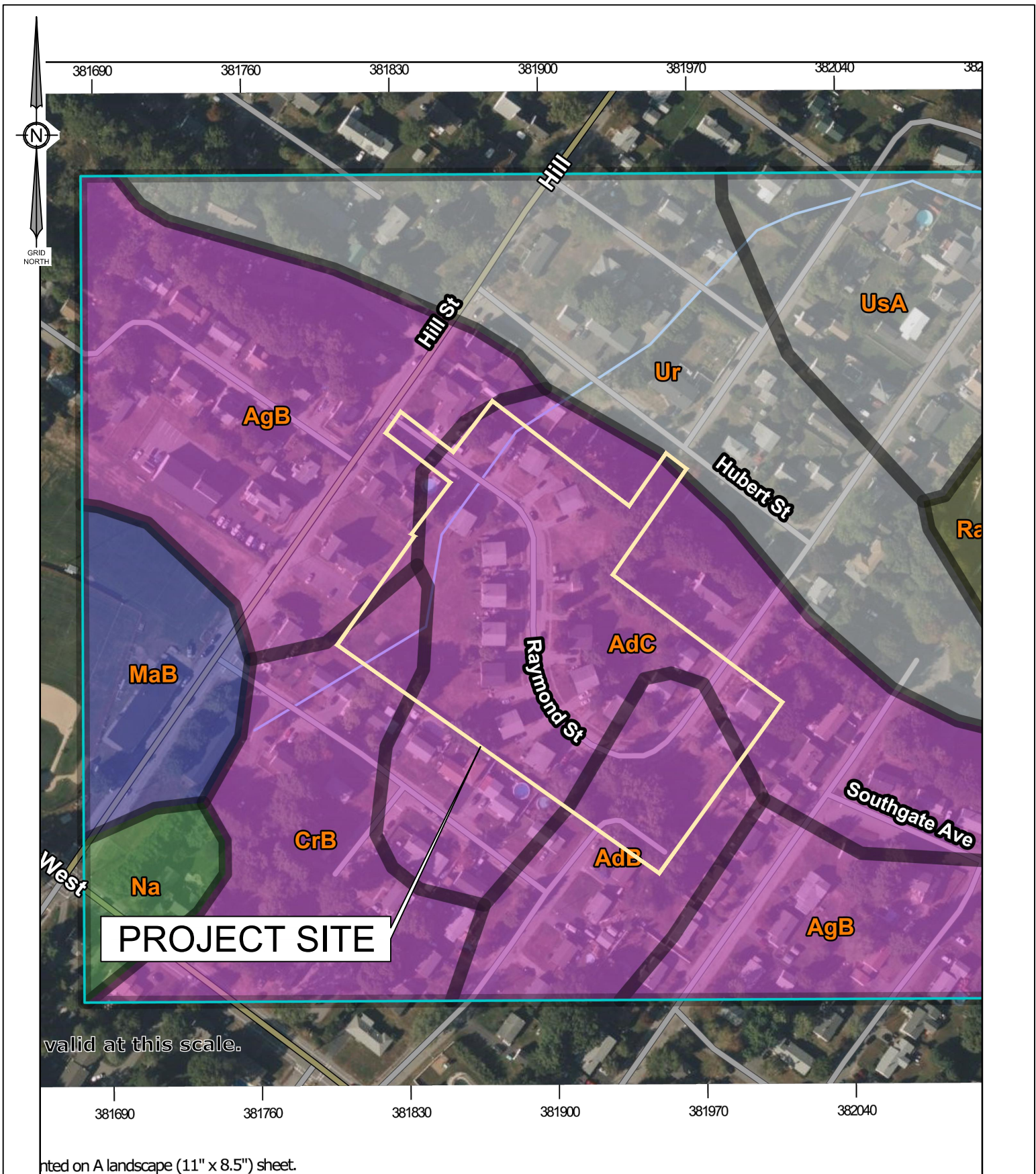


Civil Engineering | Land Surveying | Geomatics
 Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
 41 CAMPUS DRIVE, SUITE 301
 NEW GLOUCESTER, ME 04260
 PHONE:
 (207) 926-5111
 WEB SITE:
www.terradync consultants.com

PROJECT NO.
 20-68
 DATE
 8/18/2023
 SCALE
 1" = 200'

SHEET
 2
 OF
 4



nted on A landscape (11" x 8.5") sheet.

MEDIUM INTENSITY SOIL SURVEY

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101



Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradyndynconsultants.com

PROJECT NO.

20-68

DATE

8/18/2023

SCALE

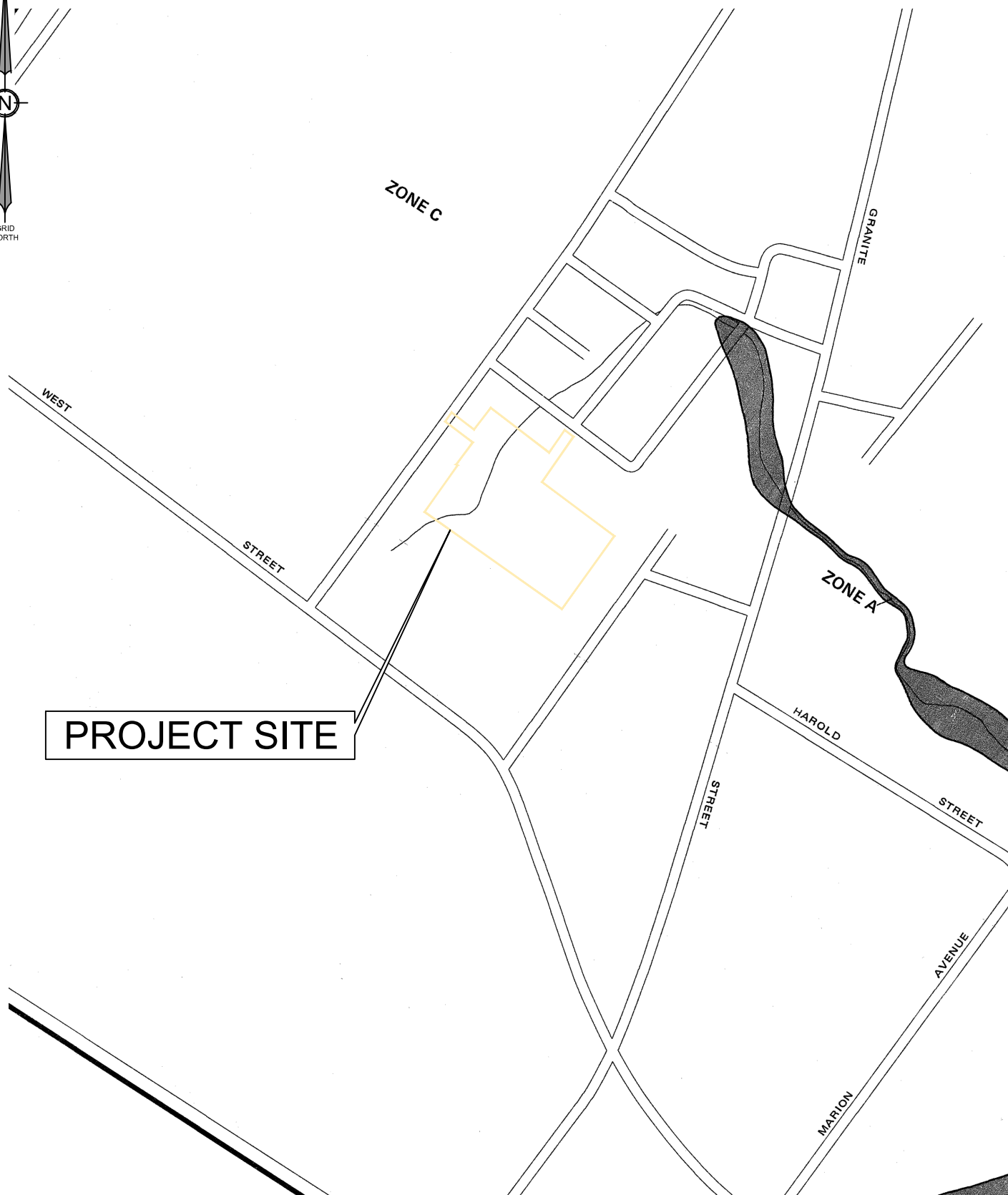
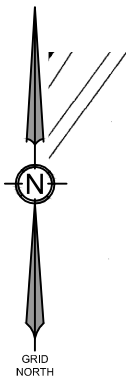
1" = 200'

SHEET

3

OF

5



FLOOD INSURANCE RATE MAP

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101



Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradync consultants.com

PROJECT NO.

20-68

DATE

8/18/2023

SCALE

1" = 500'

SHEET

4

OF

4

51

ATTACHMENT 5

ARCHITECTURAL PLANS

CM TO CONFIRM STATUS OF THE
ATTIC SPACES WITH SPRINKLER SUBCONTRACTOR.
OUR CODE INTERPRETATION IS THAT THESE SPACES ARE ADEQUATELY PROTECTED UNDER DRAFTSTOPPING OF ATTIC SPACES AND DO NOT REQUIRE DRY SPRINKLER HEADS.
THE SPRINKLER SUB MUST CONFIRM THIS WITH THE LOCAL CODE OFFICER AND OR SFM ASAP.
SEE NOTES ON SHEET A1.03. AND A4.01
IF THESE ATTIC SPACES REQUIRE DRY SPRINKLER HEADS, A THERMALLY INSULATED ACCESS HATCH WILL HAVE TO BE PROVIDED TO EACH ATTIC SPACE.
IF ACCESS PANELS ARE PROVIDED, THE EXT WALL CAN BE SHEATHED IN GWB AND DOES NOT HAVE TO BE FINISHED BEFORE THE ROOF SHEATHING GOES ON.

MAINE STATE HOUSING AUTHORITY
MAINE HOUSING QUALITY STANDARDS AND PROCEDURES MANUAL 2021 EDITION
UNIT COUNT FOR ACCESSIBILITY CALCULATIONS
EXISTING
36 EXISTING TOWNHOUSE UNITS

PROPOSED
34 EXISTING TOWNHOUSE UNITS
2 MODIFIED EXISTING
1 FIRST FLOOR (TYPE A)
1 SECOND FLOOR
10 NEW UNITS
5 FIRST FLOOR UNITS (2 TYPE A, 3 TYPE B)
5 SECOND FLOOR UNITS

TOTAL UNIT COUNT 46 UNITS

REQUIRED PER CODE & LAW
3 TYPE A (2 IN NEW BUILDING, 1 IN EXISTING)
3 TYPE B
1 A/V

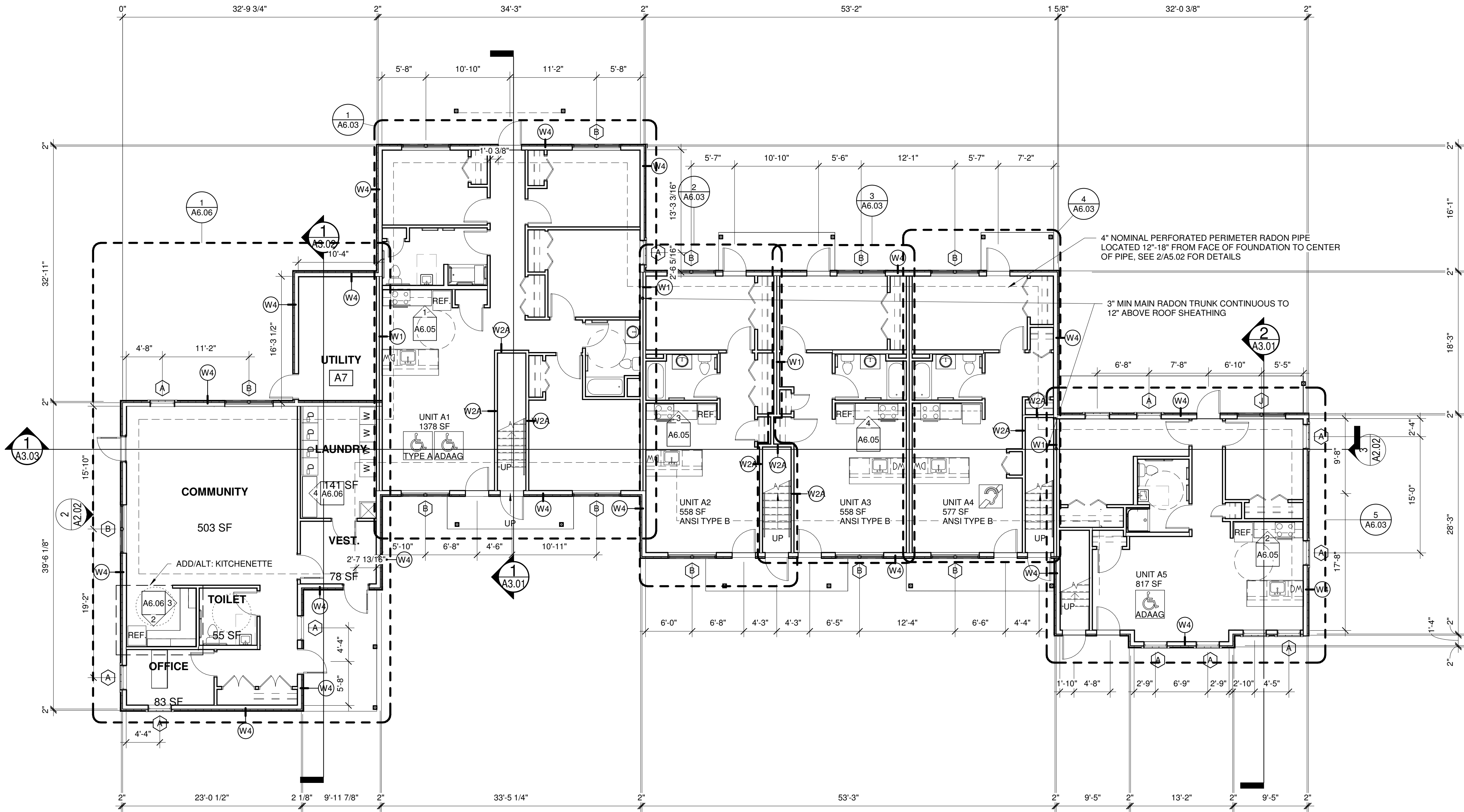
STATE OF MAINE HUMAN RIGHTS ACT REQUIRES 10% OF GROUND FLOOR AND 10% OF UPPER FLOOR UNITS TO BE ACCESSIBLE PER ANSI 117.1.
10% OF 6 GROUND FLOOR UNITS = 1 UNITS
10% OF 4 UPPER FLOOR UNITS = 1 UNITS
2 ACCESSIBLE UNITS PER ANSI 117.1, TYPE 'A' UNITS ARE REQUIRED TO COMPLY WITH THE MAINE HUMAN RIGHTS ACT.

UFAS FEDERAL FAIR HOUSING ACT SECTION 504 UNDER THE PROVISIONS OF THE HUD DEEMING NOTICE, UFAS WILL NOT BE THE STANDARD USED ON THIS PROJECT. THIS PROJECT WILL COMPLY WITH THE REQUIREMENTS OF ADAAG 2010

ADAAG AMERICANS WITH DISABILITIES ACT REQUIRES 5% OF THE TOTAL UNITS TO BE MOBILITY ACCESSIBLE PER ADAAG 2010, AND 2% OF THE TOTAL UNITS TO BE FOR HEARING AND VISION IMPAIRMENTS PER THE REQUIREMENTS OF ADAAG 2010. 5% OF 10 UNITS = 1 UNITS TO BE MOBILITY ACCESSIBLE
2% OF 10 = 1 UNITS TO BE A/V ACCESSIBLE

IBC 2015 REQUIRES 2% OF TOTAL UNITS TO BE ACCESSIBLE PER ANSI 117.1. ROUNDING UP THIS EQUALS 1 UNITS CONFORMING TO THE REQUIREMENTS OF ANSI 117.1 TYPE A .

REQUIRED UNITS A TOTAL OF 3 MOBILITY ACCESSIBLE UNITS MUST BE PROVIDED OF WHICH 2 MEETS THE REQUIREMENTS OF ADAAG 2010, AND OF WHICH THE REMAINING 1 MEETS THE REQUIREMENTS OF ADAAG 2010 AND ANSI 117.1 TYPE 'A'.
1 HEARING AND VISION ACCESSIBLE UNITS MUST BE PROVIDED.



1 | 1ST FLOOR - NEW UNITS
1/8" = 1'-0"

Prepared For:

Everybody Loves
Raymond St, LP
Address
City, State

Consultant:

ARCHETYPE
ARCHITECTS
48 Union Wharf Portland, Maine 04101
207.772.6022 ARCHETYPE@ARCHETYPEPA.COM

Architect:

BERRY PARK
APARTMENTS
Address
City, State

Project:

Revisions:
50% MSHA - 10-11-2023

Date:
10-17-2023

Scale:
1/8" = 1'-0"

FIRST FLOOR PLAN - 10
UNIT

A1.04

This architectural floor plan illustrates the second floor of a building, featuring four residential units (A6, A7, A8, A9, A10) and various mechanical and structural details. The plan includes dimensions, room layouts, and annotations for windows, doors, and stairs.

Units and Areas:

- UNIT A6:** 1447 SF, located on the left side of the plan.
- UNIT A7:** 583 SF, located in the center-left.
- UNIT A8:** 577 SF, located in the center-right.
- UNIT A9:** 658 SF, located on the right side.
- UNIT A10:** 802 SF, located on the far right.

Key Features and Annotations:

- Attic Access:** Indicated by dashed lines and labels in several locations.
- Stairs:** Shown with arrows indicating direction (UP, DOWN).
- Windows (W1, W2, W3, W4):** Various window types and sizes are labeled throughout the plan.
- Doors (D1, D2, D3, D4, D5, D6, D7, D8, D9, D10):** Door types and locations are labeled.
- Mechanical Rooms (MD1, MD2, MD3, MD4, MD5, MD6, MD7, MD8, MD9, MD10):** Mechanical equipment locations are marked.
- Structural Elements:** Columns (C1, C2, C3, C4, C5, C6, C7, C8, C9, C10) and walls are shown.
- Dimensions:** Various dimensions are provided for rooms, corridors, and overall building sections.
- Section Markers:** Circled numbers (1, 2, 3, 4, 5) and letters (A3.01, A3.02, A2.02) indicate specific sections or details.

A1.05

SECOND FLOOR PLAN -
10 UNIT

50% MSHA - 10-11-2023

Address
City, State

Architect: **ARCHETYPE
ARCHITECTS** Portland, Maine 04101
2007-772-6022 ARCHETYPE@ARCHETYPEPA.COM

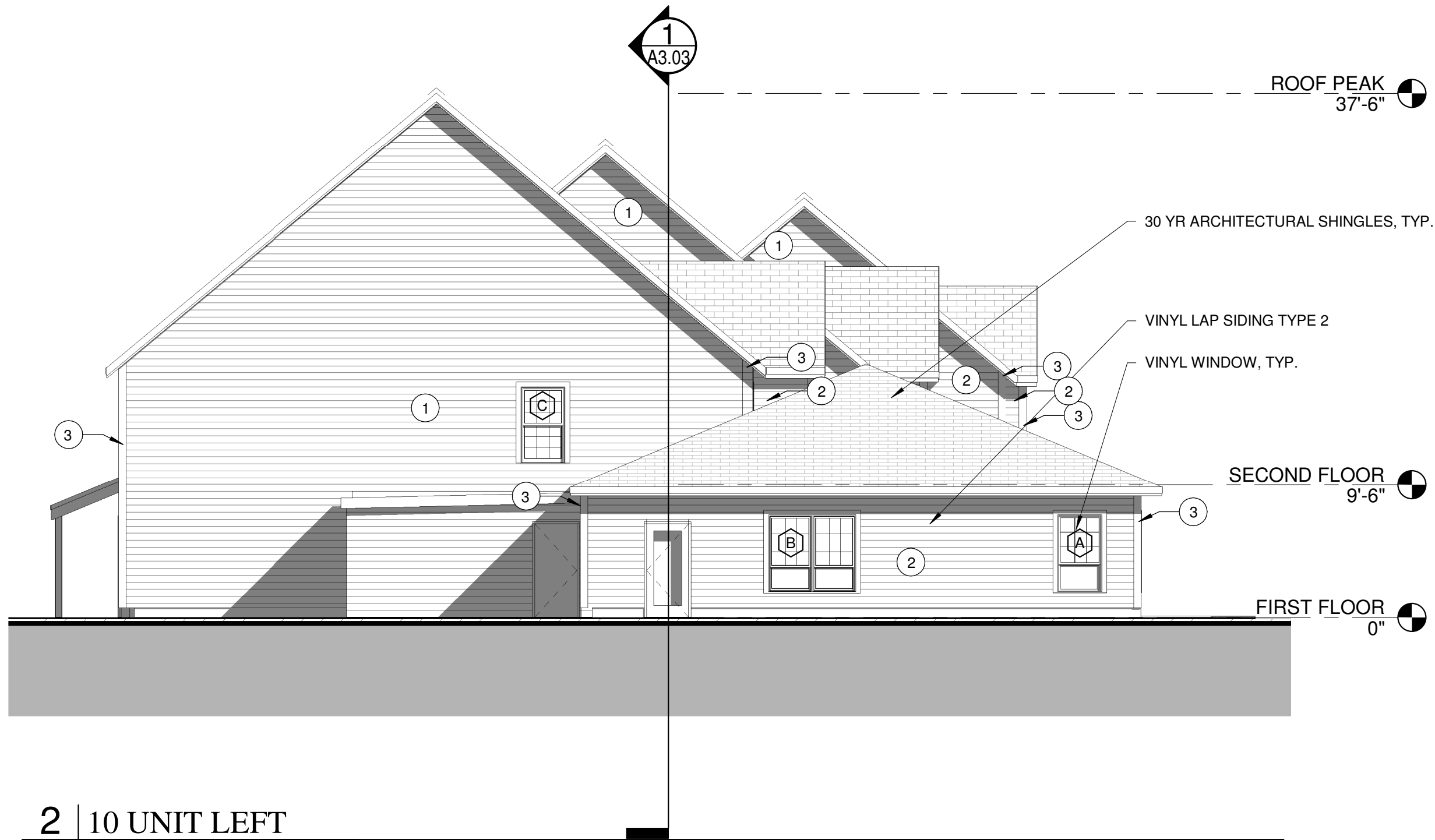
Everybody Loves
Raymond St, LP

ELEVATION LEGEND

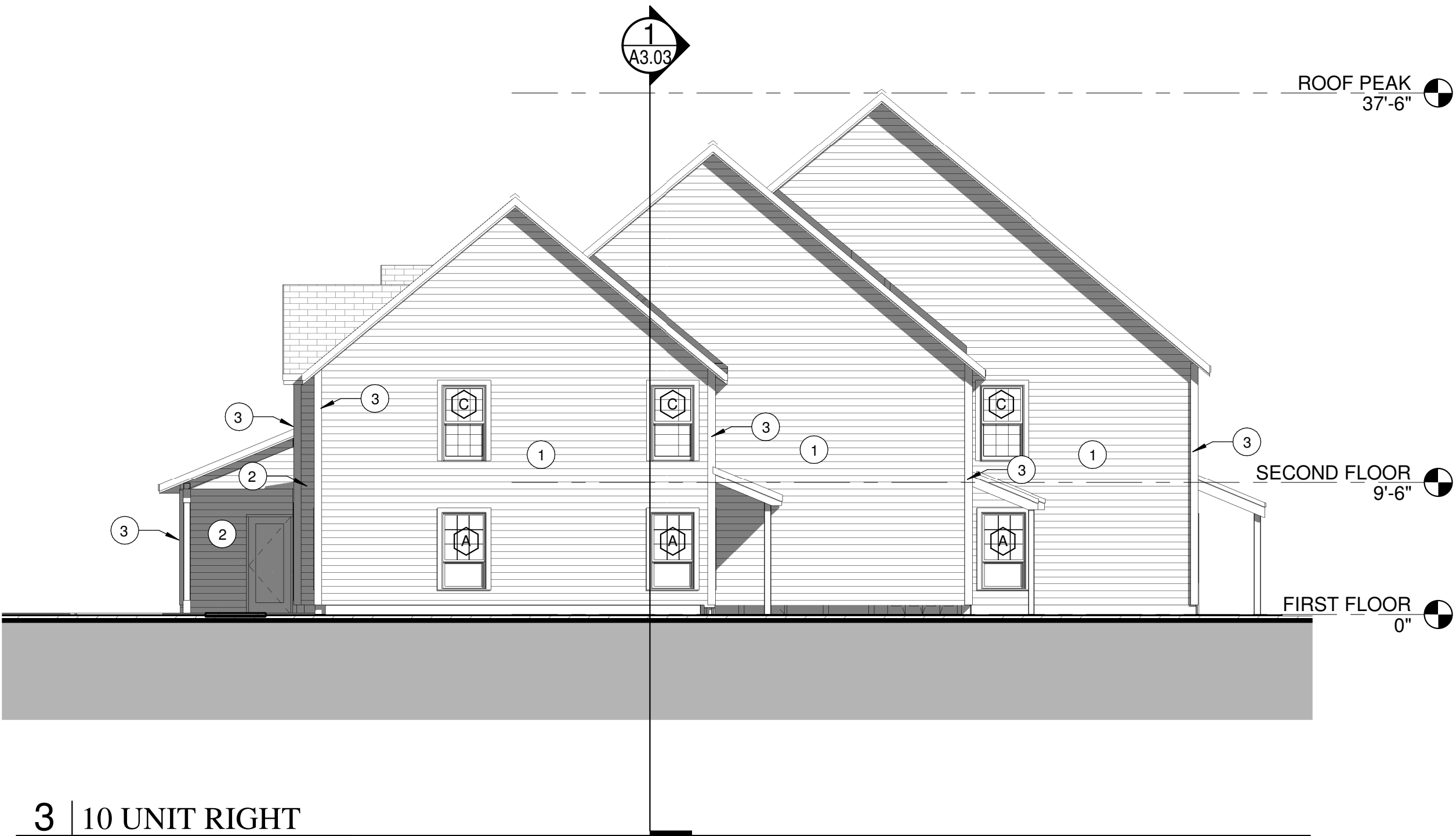
1. CERTAINTED 5" VINYL LAP SIDING, WOOD GRAIN - PACIFIC BLUE
2. CERTAINTED 5" VINYL LAP SIDING, WOOD GRAIN - STERLING GRAY
3. 1X6 PVC, CORNER BOARDS, SMOOTH TYP. WHITE



4 | 10 UNIT REAR
1/8" = 1'-0"



2 | 10 UNIT LEFT
1/8" = 1'-0"



3 | 10 UNIT RIGHT
1/8" = 1'-0"



1 | 10 UNIT FRONT
1/8" = 1'-0"

Prepared For:

Everybody Loves
Raymond St, LP

Consultant:

ARCHETYPE
ARCHITECTS
448 Union Wharf Portland, Maine 04101
207.772.6022 ARCHETYPE@ARCHETYPEPA.COM

Project:
BERRY PARK
APARTMENTS
Address:
City, State

Revisions:
50% MSHA - 10-11-2023

Date:
10-17-2023

Scale:
1/8" = 1'-0"

BUILDING
ELEVATIONS - 10-UNIT

A2.02

ATTACHMENT 6

STORMWATER REPORT



BERRY PARK – PROPOSED 10-UNIT BUILDING
RAYMOND STREET, BIDDEFORD, MAINE

STORMWATER MANAGEMENT REPORT

PREPARED FOR:

EVERYBODY LOVES RAYMOND ST, LP
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 04103

PREPARED BY:

TERRADYN CONSULTANTS LLC
565 CONGRESS STREET, SUITE 201
PORTLAND, MAINE 04101

NOVEMBER 2023

Introduction

The following Stormwater Management Plan has been prepared for the Berry Park Apartments Expansion development located at Raymond Street in Biddeford to evaluate stormwater runoff and erosion control for the proposed 10-unit residential building.

Site Calculations

Below is a summary of existing and proposed impervious and developed areas on the project site.

Total Property Area	5.66 Ac
Existing Impervious Area	0.02 Ac
Existing Developed Area	0.37 SF
Proposed Impervious Area	0.36 SF
Proposed Developed Area	0.60 SF

Existing Conditions

The project site is approximately 5.66 acres in size and is identified as Lot 108 on Biddeford Tax Map 29. The site is owned by Berry Park Apartments, LLC and is located in the R2 Multi-Family Residential Zoning District.

The project is within Berry Park, an existing 36-unit affordable housing development located on Raymond Street in Biddeford. The development was constructed in the early 1970's and includes 18 duplex buildings.

Berry Park is bisected by Raymond Street, a 30'-wide (+/-) paved public street with bituminous curbing and sidewalks on both sides. The existing duplexes are located along both sides of Raymond Street, approximately 20' to 30' from the public right-of-way.

The location of the proposed building is the southern corner of the Berry Park parcel, on the south side of Raymond Street. The project site is approximately 0.6 acres in size and is comprised of mowed grass and unmaintained shrub vegetation.

The site currently drains toward a low point within the wooded area toward the south of the site, previously a catch basin drained toward Debbie Avenue. This catch basin has since been abandoned and will need to be replaced, as a result the wooded area is generally wet with no clear drainage path. A catch basin located at the low point of Raymond Street collects runoff from the greater roadway, it previously drained toward Debbie Avenue through the site. The outlet pipe has been crushed and will need to be replaced.

Soils on the project site are mapped as Urban Fill (HSG A) by the NRCS web soil survey in August 2023. Test pits were completed by Summit Geoengineering Services in October 2023 and found that the site generally consists of a mixture of urban fill and peat. Groundwater was encountered at 4' below grade. While urban fill has a hydrologic soil group classification of A, the analysis of the test pits and on-site detection of standing water estimates the actual hydrologic soil group classification to be approximately C.

The following existing conditions figures are provided in Appendix 1:

Figure 1	USGS Topographic Map
Figure 2	Aerial Photograph
Figure 3	Federal Insurance Rate Map
Figure 4	Soils Map

Proposed Project

The applicant is proposing to construct a new 2-story, 10-unit residential building with associated site improvements. The project will be financed through the Maine State Housing Authority's (MSHA) Low Income Housing Tax Credit (LITEC) program and will provide housing for low-income renters.

The building will be served by water and sewer services from Raymond Street. The stormwater system within the site will be reconstructed, stormwater on site will be detained within a system of R-Tanks and discharged toward Debbie Avenue.

Applicable Design Standards

The City of Biddeford Site Plan Review Ordinance Section 5 requires Stormwater Management Plan for all major site plan applications.

Stormwater Quantity Control

Stormwater Quantity control is required as part of City and MDEP requirements for this project; the proposed development has been designed to minimize stormwater runoff from the site in excess of the natural pre-development conditions. A hydrologic analysis of pre-development and post-development conditions was conducted based upon the methodology contained in the USDA Soil Conservation Service's Technical Releases No. 20 and 55 (SCS TR-20 and TR-55). For York County, Maine a 24-hour SCS Type III Storm distribution was used for the analysis using the following storm frequencies and rainfall amounts, per Maine DEP Chapter 500:

Storm Event	24-Hour Rainfall
2-Year Storm	3.3 inches
10-Year Storm	4.9 inches
25-Year Storm	6.2 inches

Runoff curve numbers, time of concentration, and travel time data were established based on methods outlined in the USDA TR-55 manual.

A minimum time of concentration of 5 minutes and a maximum sheet flow distance of 150 linear feet was used in the models.

Pre-Development Conditions

The pre-development HydroCAD model includes one (1) subcatchment and two (2) study points. Stormwater runoff from the site flows primarily away from Raymond Street towards a low point at the rear of the site, a catch basin previously existed that flowed toward Debbie Avenue, the area is now a low point that retains water. Below is a summary of the study points:

Study Point SP1 – Located at the southern border of site where runoff from the site enters the storm system within Debbie Avenue.

Study Point SP2 – Located at the Raymond Street border of site where runoff from the site enters the storm system within Raymond Street.

A Pre-Development Watershed Map, showing sub-watershed boundaries, time of concentration flow paths, and Study Points is provided in Appendix 3. The Pre-development HydroCAD model is attached in Appendix 5.

Existing condition peak rates of runoff at the Study Points are as follows:

Pre-Development Peak Rates of Runoff (cfs)			
	2-Year	10-Year	25-Year
SP1	0.67	1.49	2.22
SP2	0	0	0

The pre-development peak rates of runoff are a baseline used for comparison to the post-development condition.

Post-Development Conditions

The proposed post-development HydroCAD model includes three (3) subcatchments and two (2) study points. The study points remain the same from the pre-development model. A Post-development Watershed Map showing sub-watershed boundaries, time of concentration flow paths, and Study Points is provided in Appendix 3. The Post-development HydroCAD model is attached in Appendix 6.

Post-development peak rates of runoff at the Study Points are as follows:

Post-Development Peak Rates of Runoff (cfs)			
	2-Year	10-Year	25-Year
SP1	0.61	1.47	1.96
SP2	0.07	0.13	0.18

Peak Flow Analysis

The results of the pre-development and post-development models were analyzed at the defined Study Points described above. The direct comparison of the pre-development and post-development conditions at the Study Points are as follows:

Peak Runoff Flow Rates Comparison		
Storm Event	Pre-Development (cfs)	Post-Development (cfs)
Study Point SP1		
2-Year	0.67	0.61
10-Year	1.49	1.47
25-Year	2.22	1.96
Study Point SP2		
2-Year	0	0.07
10-Year	0	0.13
25-Year	0	0.18

The peak rates of runoff at study point 1 are expected to be reduced in the 2, 10 & 25-year storm events due to the detention of stormwater runoff from the roof and parking area through the stormwater management system. Study point 2 will create a minor increase in peak flows to the stormwater system within Raymond Street, the system is anticipated to have adequate capacity to receive this increase. The combined peak flows for study points 1 & 2 will result in a reduction from predevelopment conditions to post development conditions.

Stormwater Quality Control

Stormwater treatment is provided for the roof and parking surface runoff through the r-tank system. An R-tank stormwater management system is proposed to be located to the west of the proposed building in a landscaped area and will provide quantity control. The R-tank system is designed with a treatment row and the system will detain stormwater from the 2-, 10-, and 25-year storm events into the reconstructed stormwater system within Debbie Avenue.

Sizing for the R-tank system was completed in HydroCAD and specific details will be provided by Ferguson to be attached to the project plan set.

Summary

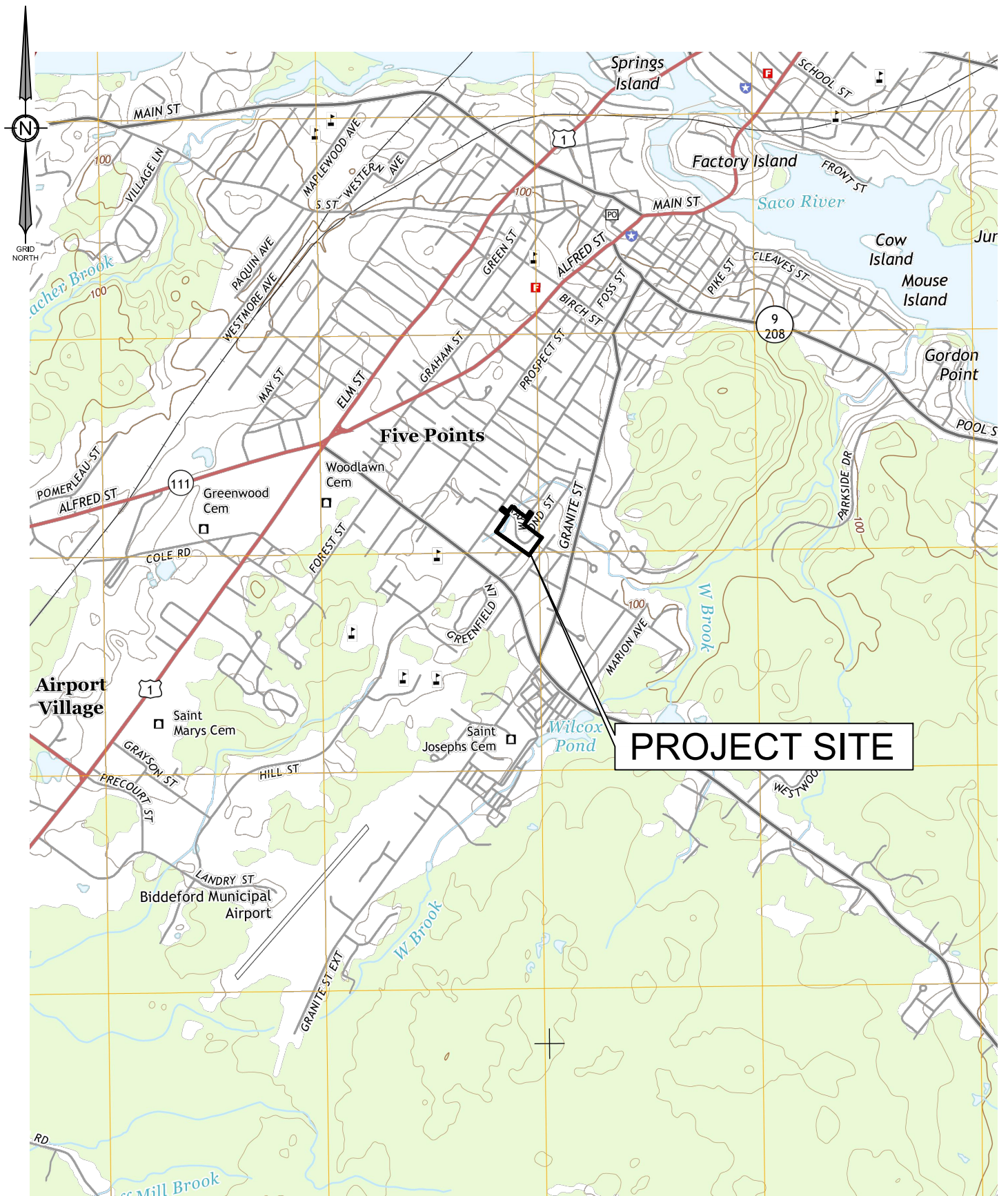
Based upon the results of this evaluation, the proposed project is not expected to cause flooding, erosion, or other significant adverse effects downstream of the site.

Appendices

- 1 – Existing Conditions Figures
- 2 – Test Pit Logs
- 3 – Watershed Maps
- 4 – Inspection & Maintenance Manual
- 5 – Preliminary R-Tank Details
- 6 – Standardized Stormwater Tables
- 7 – Pre-Development HydroCAD Model
- 8 – Post-Development HydroCAD Model

APPENDIX 1

EXISTING CONDITIONS FIGURES



USGS BIDDEFORD QUADRANGLE

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101



Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradyngconsultants.com

PROJECT NO.
20-68
DATE
8/18/2023
SCALE
1" = 2,000'

SHEET
1
OF
1



PROJECT SITE

AERIAL MAP

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101

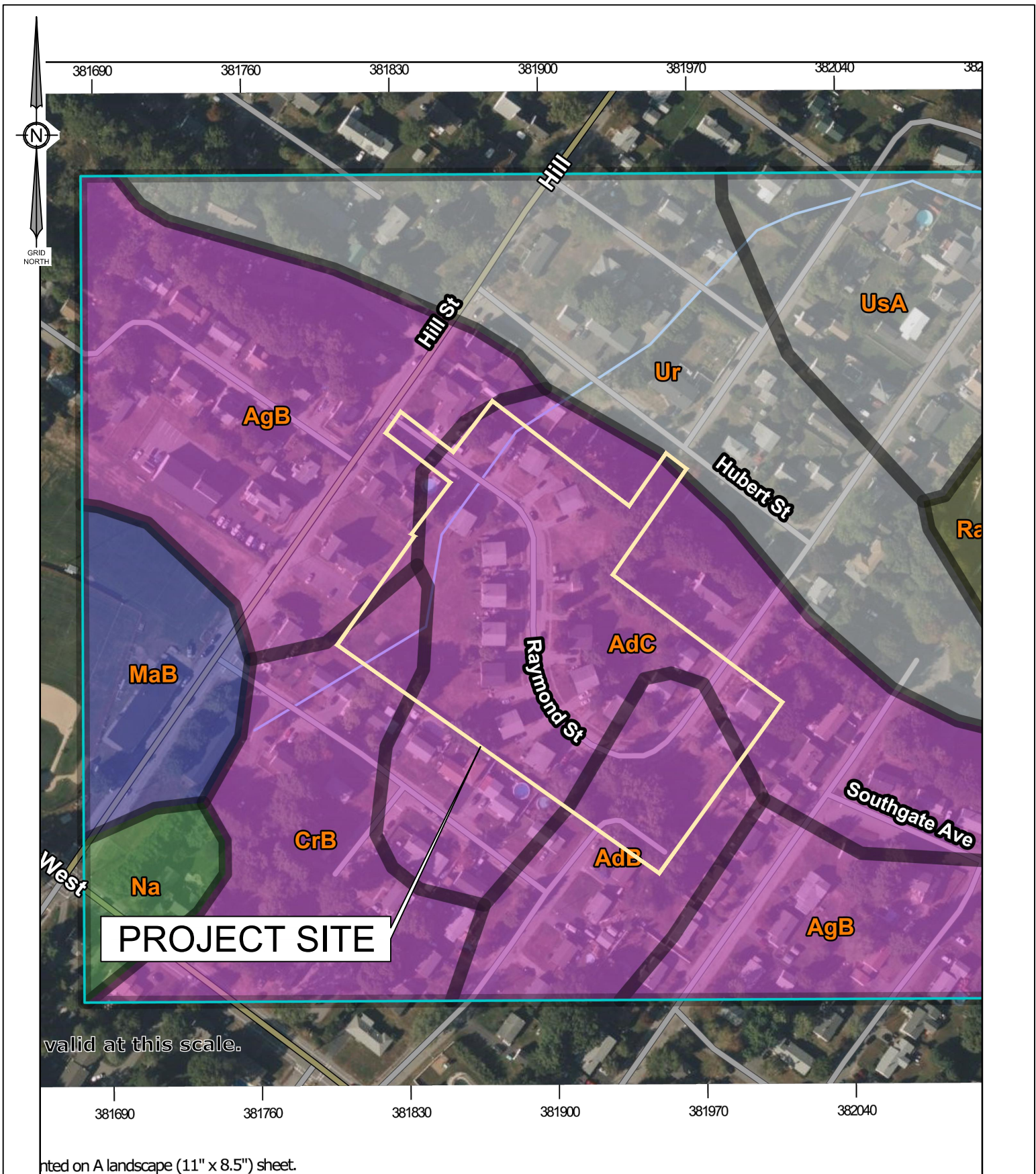


Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

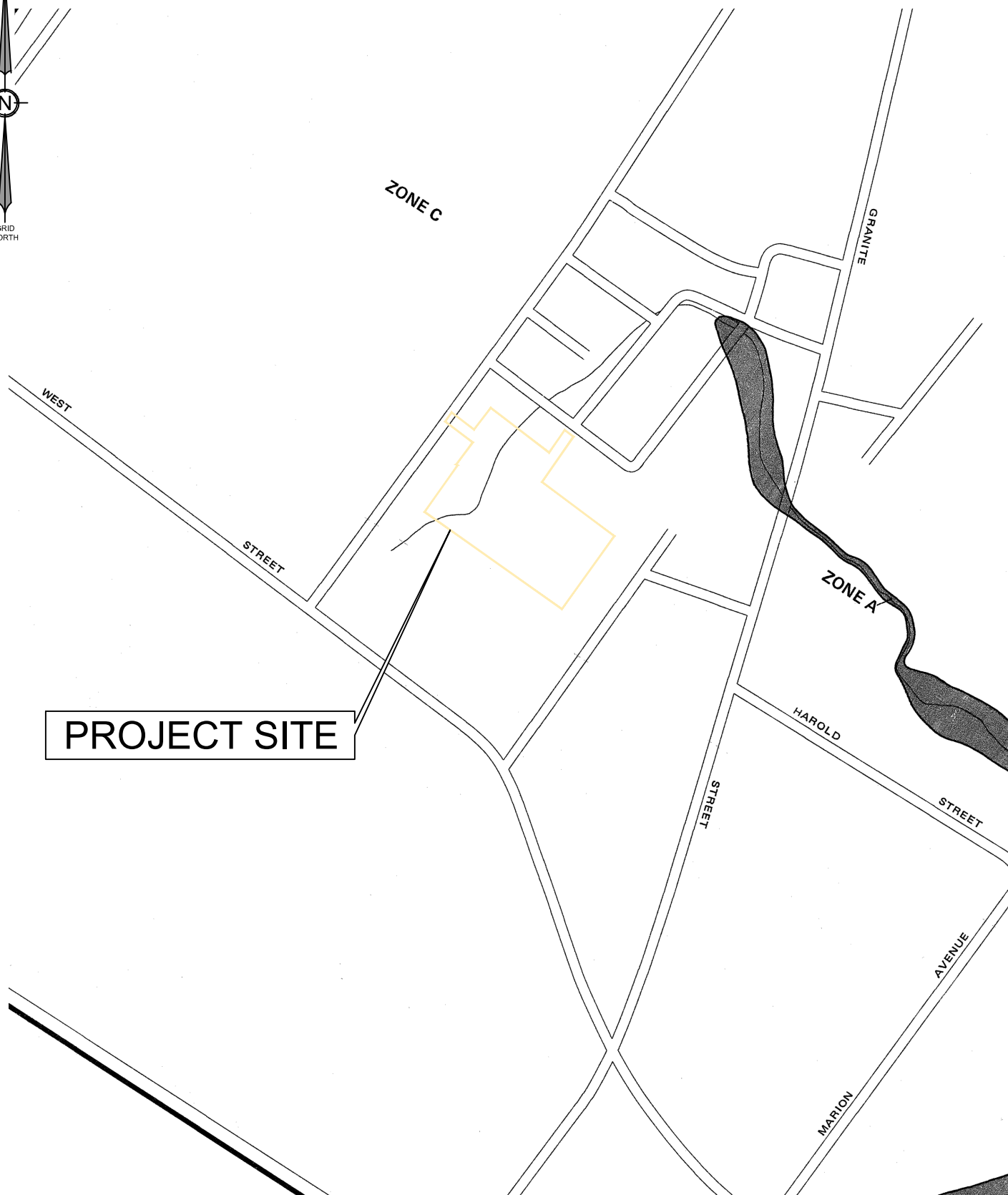
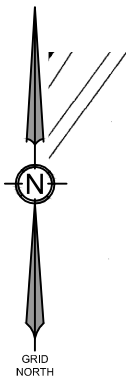
ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradync consultants.com

PROJECT NO.
20-68
DATE
8/18/2023
SCALE
1" = 200'

SHEET
2
OF
4



MEDIUM INTENSITY SOIL SURVEY PROJECT: BERRY PARK EXPANSION RAYMOND STREET, BIDDEFORD, MAINE PREPARED FOR: NORTHLAND ENTERPRISES, LLC 17 SOUTH STREET, 3RD FLOOR PORTLAND, MAINE 040101	 Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting	ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260 PHONE: (207) 926-5111 WEB SITE: www.terradyndynconsultants.com	PROJECT NO. 20-68 DATE 8/18/2023 SCALE 1" = 200'	SHEET 3 OF 5
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FLOOD INSURANCE RATE MAP

PROJECT:
BERRY PARK EXPANSION
RAYMOND STREET, BIDDEFORD, MAINE
PREPARED FOR:
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 040101



Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradyconsultants.com

PROJECT NO.

20-68

DATE

8/18/2023

SCALE

1" = 500'

SHEET

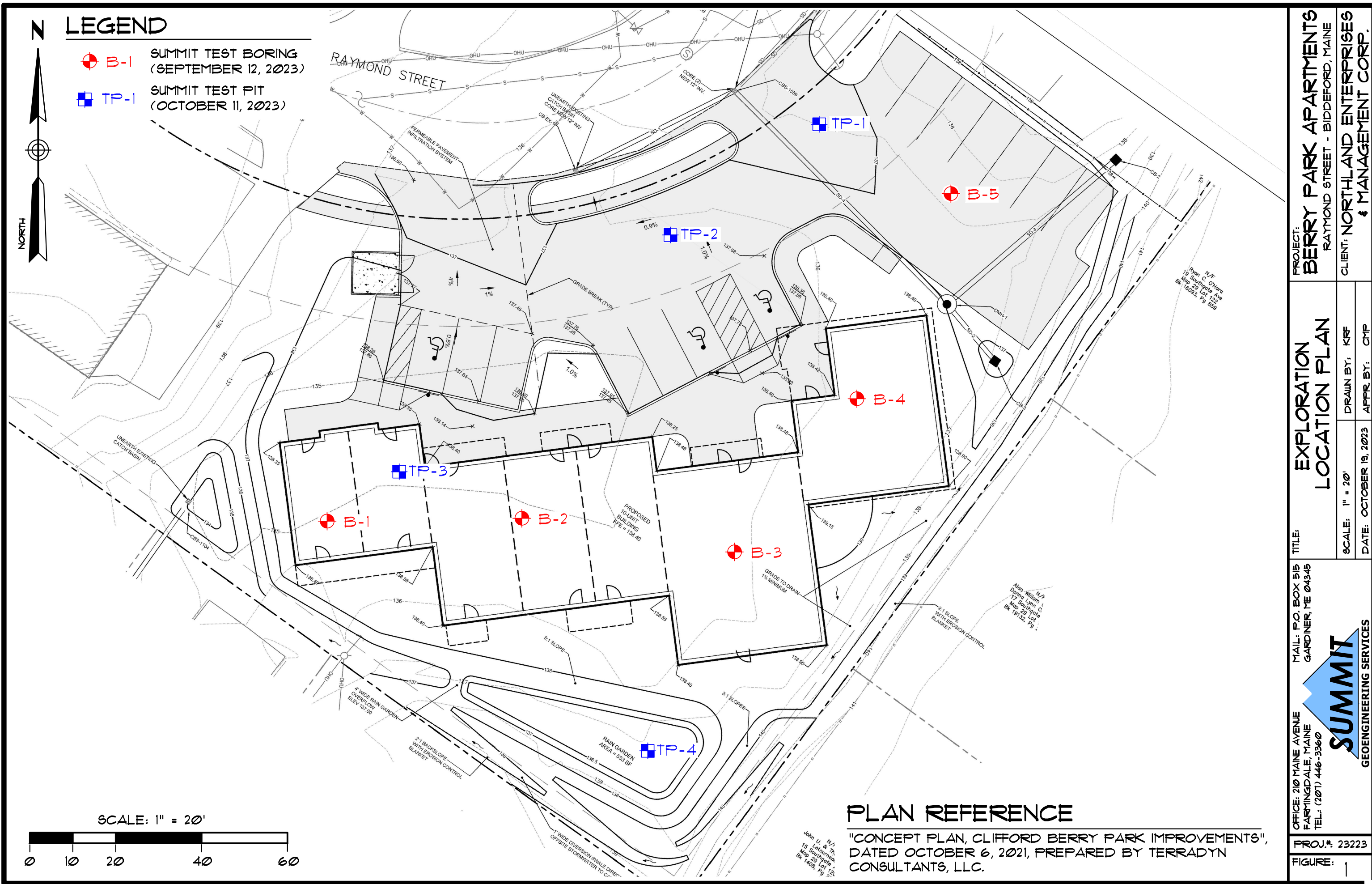
4

OF

4

APPENDIX 2

TEST PIT LOGS



		TEST PIT LOG		Test Pit # TP-1
		Project: Berry Park Apartments 35 Raymond Street Biddeford, ME		Project #: 23223.1 Groundwater: Seepage at 8 ft
Contractor: Emery Brothers		Ground Surface Elevation: 137 ft +/-		
Equipment: Case CX160D		Reference: Concept Plan, Berry Park, Terradyn 10/6/21		
Summit Staff: C. Plante, EI		Date: 10/11/2023	Weather: Partly Cloudy	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Brown SAND, some to little Silt and Gravel, few Cobbles, loose, damp, SM		FILL	
2	Light brown SAND, some Gravel, some to little Silt, loose, damp to moist, SM			
3				
4	Black and brown PEAT, many stumps and branches, very soft, wet, PT		PEAT	
5	Perched water flowing within peat at 5 ft			
6				
7				
8				
9	Seepage at 8 ft			
10	Olive gray Silty SAND, some Gravel, few Cobbles, occasional Silty Clay seams, compact, saturated, SM		GLACIAL MARINE	
11	End of Test Pit at 10.5 ft - No refusal			
12				
13				
14				
15				
16				
17				
DRAFT				

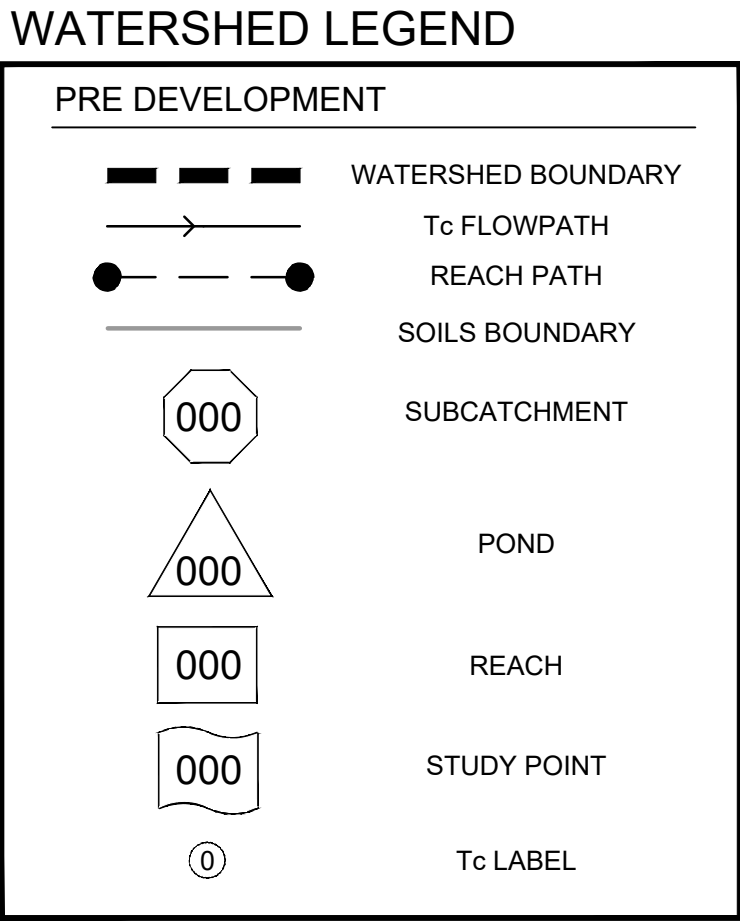
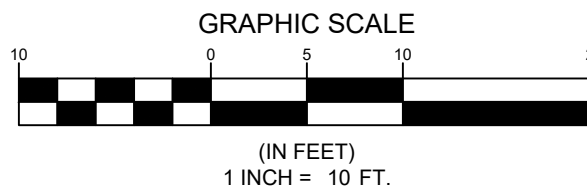
		TEST PIT LOG		Test Pit # TP-2
		Project: Berry Park Apartments 35 Raymond Street Biddeford, ME		Project #: 23223.1 Groundwater: None observed
Contractor: Emery Brothers		Ground Surface Elevation: 136 ft +/-		
Equipment: Case CX160D		Reference: Concept Plan, Berry Park, Terradyn 10/6/21		
Summit Staff: C. Plante, EI		Date: 10/11/2023	Weather: Partly Cloudy	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Brown SAND, some to little Gravel, little to trace Silt, few Cobbles, occasional Clay balls, loose, damp, SP-SM		FILL	
2				
3				
4	Gray Silty SAND, some Gravel and Clay, frequent root pieces and Cobbles, compact, moist, SM Large Boulder at 3 ft		FILL W/ ORGANIC PIECES	
5				
6				
7				
8	Brown and black PEAT, many roots, very soft, wet, PT		PEAT	
9				
10				
11	End of Test Pit at 9 ft - Bottom of sewer pipe			
12				
13				
14				
15				
16				
17				
DRAFT				

		TEST PIT LOG		Test Pit # TP-3
		Project: Berry Park Apartments 35 Raymond Street Biddeford, ME		Project #: 23223.1
				Groundwater: Seepage at 4 ft
Contractor: Emery Brothers		Ground Surface Elevation: 135 ft +/-		
Equipment: Case CX160D		Reference: Concept Plan, Berry Park, Terradyn 10/6/21		
Summit Staff: C. Plante, EI		Date: 10/11/2023	Weather: Partly Cloudy	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Brown SAND, some Silt, loose, moist, SM Trace roots from trees throughout		FILL	
2				
3				
4	Black and brown PEAT, many roots, occasional stumps, very soft, wet, PT Seepage at 4 ft		PEAT	
5				
6				
7				
8				
9	Olive gray Clayey SILT, little Sand, very soft, satruated, ML ----- Olive gray SAND, some to little Silt, loose, saturated, SM		GLACIAL MARINE	
10				
11	End of Test Pit at 11.5 ft - No refusal			
12				
13				
14				
15				
16				
17				
DRAFT				

		TEST PIT LOG		Test Pit # TP-4
		Project: Berry Park Apartments 35 Raymond Street Biddeford, ME		Project #: 23223.1 Groundwater: Rapid seepage at 4 ft
Contractor: Emery Brothers		Ground Surface Elevation: 137 ft +/-		
Equipment: Case CX160D		Reference: Concept Plan, Berry Park, Terradyn 10/6/21		
Summit Staff: C. Plante, EI		Date: 10/11/2023	Weather: Partly Cloudy	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Brown SAND, some to little Silt, little Gravel, occasional Cobbles, loose, damp, SM		FILL	
2				
3	Brown and black PEAT, many roots, very soft, wet to saturated, PT Rapid seepage at 4 ft		PEAT	
4				
5				
6				
7				
8				
9	Olive brown SAND, little Silt, loose, saturated, SP		GLACIAL MARINE	
10				
11	End of Test Pit at 10.5 ft - No refusal			
12				
13				
14				
15				
16				
17				
DRAFT				

APPENDIX 3

WATERSHED MAPS



- SOILS WITHIN THE WATERSHED AREAS ARE A COMBINATION OF URBAN FILL AND PEAT. SITE VISITS SHOW OBSERVATIONS OF PONDED WATER, ON SITE SOILS ARE UNIFORMLY ESTIMATED AS HYDROLOGIC SOIL GROUP C.
- STUDY POINT 1 IS THE SOUTHERN PARCEL BOUNDARY WHERE ON SITE FLOW COLLECTS IN A LOW POINT AND ENTERS THE STORMWATER SYSTEM WITHIN DEBBIE AVENUE

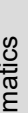
PRE DEVELOPMENT TIME OF CONCENTRATION			
WATERSHED	1		
	TYPE	LENGTH (FT)	SLOPE
A-B	SF	75	0.02



DATE: 11/15/2023

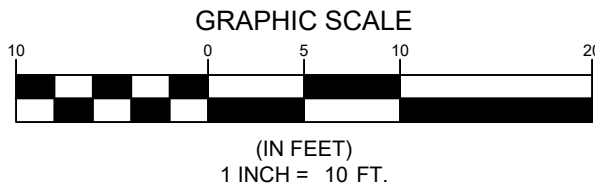
CITY OF BIDEFORD SITE PLAN SUBMISSION
MSHA 50% SUBMISSION
REVISIONS

2	11/15/2023	
1	10/17/2023	
NO.	DATE	

 TERRADYN CONSULTANTS, LLC	ADDRESS: 417 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260 PHONE: (207) 936-6111 WEB SITE: www.terradynconsultants.com	Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting
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PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:	BERRY PARK EXPANSION
DATE:	8/23/2023
SCALE:	1" = 10'
JOB NO:	20-68
SHEET:	WS-1.0



APPENDIX 4

Inspection & Maintenance Manual

INSPECTION & MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES

FOR:

BERRY PARK APARTMENTS RAYMOND STREET BIDDEFORD, MAINE

Owner/Responsible Party: Everybody Loves Raymond Street, LP
17 South Street 3rd Floor
Portland, ME 04101
(207) 780-0223

Prepared By: Terradyn Consultants, LLC
565 Congress Street, Suite 201
Portland, ME 04101
(207) 926-5111

List of Stormwater Measures:
Roadways & Parking Surfaces
R-Tank

Introduction:

Regular inspection and maintenance of the entire stormwater management system is crucial to the long-term effectiveness of the system. The owner is responsible for regular inspection and maintenance of all stormwater management structures, the establishment of any contract services required to implement the program, and keeping records and a maintenance log book of inspection and maintenance activities. At a minimum, the inspection and maintenance activities outlined herein should be performed at the recommended intervals. All inspection and maintenance documentation shall be maintained for at least 5 years.

All measures must be maintained in effective operating condition. A person with knowledge of erosion and sedimentation practices, stormwater management, and the standards and conditions of all local, state and federal permits for the project shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected.

Inspection & Maintenance Tasks:

Inspections should be performed by qualified erosion control professional. NOTE: The following are excerpts from the Maine Department of Environmental Protection's *Stormwater Management for Maine, Volume III BMPs Technical Design Manual*, dated January 2006.

ROADWAYS & PARKING SURFACES:

- Inspect roadways and parking areas annually in the spring or as needed.
- Clear and remove accumulated winter sand from paved surfaces.
- Sweep or vacuum paved surfaces at least once annually in the spring to remove all winter sand and periodically during the year on an as-needed basis to minimize the transport of sediment during rainfall events.
- Clean out the sediment within culverts.
- Ensure that stormwater runoff is not impeded by sediment accumulation.

R-TANK

See attached R-tank Operation, Inspection & Maintenance documents from ACF Environmental.

General Maintenance Requirements for Subsurface Sand Filters include:

- A legal agreement between the owner and an approved maintenance operator should identify the responsible inspector, all inspection and maintenance tasks, and all financial obligations.
- A legal contract with a 5 year time period should establish maintenance responsibilities and the cost to cover long-term inspection and maintenance needs.
- Pre-treatment Device: Cleaning of the pretreatment device should be performed at least twice per year, in the fall and spring, or if clogging or excessive sediment is observed.
- Drainage: The filter should be draining within 48 hours following a one-inch storm or greater.

**Stormwater Management Facilities
Post Construction Inspection & Maintenance Log
Raymond Street, Biddeford, Maine**

General Information:

Inspected by:	Date:	Weather:
---------------	-------	----------

Reason for Inspection: (Regular Inspection) (Major Rain Event, 1" in 24 hours)

BMP	Conditions Observed	Repairs Needed ?
1. Roadways & Parking Surfaces		
2. R-tank system		

Detailed Repair Notes:

BMP Type	Date	Description of Repairs & Sediment Disposal

Notes:

If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. A copy of this log shall be retained for a period of at least five years from the completion of permanent stabilization. The log must be made accessible to Department of Environmental Protection staff and a copy provided to the Department upon request.



R-TANK OPERATION, INSPECTION & MAINTENANCE

Operation

Your ACF R-Tank System has been designed to function in conjunction with the engineered drainage system on your site, the existing municipal infrastructure, and/or the existing soils and geography of the receiving watershed. Unless your site included certain unique and rare features, the operation of your R-Tank System will be driven by naturally occurring systems and will function autonomously. However, upholding a proper schedule of Inspection & Maintenance is critical to ensuring continued functionality and optimum performance of the system.

Inspection

Both the R-Tank and all stormwater pre-treatment features incorporated into your site must be inspected regularly. Inspection frequency for your system must be determined based on the contributing drainage area, but should never exceed one year between inspections (six months during the first year of operation).

Inspections may be required more frequently for pre-treatment systems. You should refer to the manufacturer requirements for the proper inspection schedule.

With the right equipment your inspection and measurements can be accomplished from the surface without physically entering any confined spaces. If your inspection does require confined space entry, you **MUST** follow all local/regional requirements as well as OSHA standards.

R-Tank Systems may incorporate Inspection Ports, Maintenance Ports, and/or adjoining manholes. Each of these features are easily accessed by removing the lid at the surface. With the cover removed, a visual inspection can be performed to identify sediment deposits within the structure. Using a flashlight, ALL access points should be examined to complete a thorough inspection.

Inspection Ports

Usually located centrally in the R-Tank System, these perforated columns are designed to give the user a base-line sediment depth across the system floor.

Maintenance Ports

Usually located near the inlet and outlet connections, you'll likely find deeper deposits of heavier sediments when compared to the Inspection Ports.

Manholes

Most systems will include at least two manholes - one at the inlet and another at the outlet. There may be more than one location where stormwater enters the system, which would result in additional manholes to inspect.

Bear in mind that these manholes often include a sump below the invert of the pipe connecting to the R-Tank. These sumps are designed to capture sediment before it reaches the R-Tank, and they should be kept clean to ensure they function properly. However, existence of sediment in the sump does **NOT** necessarily mean sediment has accumulated in the R-Tank.

After inspecting the bottom of the structure, use a mirror on a pole (or some other device) to check for sediment or debris in the pipe connecting to the R-Tank.

R-TANK OPERATION INSPECTION & MAINTENANCE

If sediment or debris is observed in any of these structures, you should determine the depth of the material. This is typically accomplished with a stadia rod, but you should determine the best way to obtain the measurement.

All observations and measurements should be recorded on an Inspection Log kept on file. We've included a form you can use at the end of this guideline.

Maintenance

The R-Tank System should be back-flushed once sediment accumulation has reached 6" or 15% of the total system height. Use the chart below as a guideline to determine the point at which maintenance is required on your system.

R-Tank Unit	Height	Max Sediment Dept
Mini	9.5"	1.5"
Single	17"	3"
Double	34"	5"
Triple	50"	6"
Quad	67"	6"
Pent	84"	6"

Before any maintenance is performed on your system, be sure to plug the outlet pipe to prevent contamination of the adjacent systems.

To back-flush the R-Tank, water is pumped into the system through the Maintenance Ports as rapidly as possible. Water should be pumped into ALL Maintenance Ports. The turbulent action of the water moving through the R-Tank will suspend sediments which may then be pumped out.

If your system includes an Outlet Structure, this will be the ideal location to pump contaminated water out of the system. However, removal of back-flush water may be accomplished through the Maintenance Ports, as well.

For systems with large footprints that would require extensive volumes of water to properly flush the system, you should consider performing your maintenance within 24 hours of a rain event. Stormwater entering the system will aid in the suspension of sediments and reduce the volume of water required to properly flush the system.

Once removed, sediment-laden water may be captured for disposal or pumped through a Dirtbag™ (if permitted by the locality).



2831 Cardwell Road
Richmond, Virginia, 23234
800.448.3636
FAX 804.743.7779
acfenvironmental.com

Step-By-Step Inspection & Maintenance Routine

1) Inspection

- a. Inspection Port
 - i. Remove Cap
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod
 - iv. Record results on Maintenance Log
 - v. Replace Cap
- b. Maintenance Port/s
 - i. Remove Cap
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod
 - iv. Record results on Maintenance Log
 - v. Replace Cap
 - vi. Repeat for ALL Maintenance Ports
- c. Adjacent Manholes
 - i. Remove Cover
 - ii. Use flashlight to detect sediment deposits
 - iii. If present, measure sediment depth with stadia rod, accounting for depth of sump (if present)
 - iv. Inspect pipes connecting to R-Tank
 - v. Record results on Maintenance Log
 - vi. Replace Cover
 - vii. Repeat for ALL Manholes that connect to the R-Tank

2) Maintenance

- a. Plug system outlet to prevent discharge of back-flush water
- b. Determine best location to pump out back-flush water
- c. Remove Cap from Maintenance Port
- d. Pump water as rapidly as possible (without over-topping port) into system until at least 1" of water covers system bottom
- e. Replace Cap
- f. Repeat at ALL Maintenance Ports
- g. Pump out back-flush water to complete back-flushing
- h. Vacuum all adjacent structures and any other structures or stormwater pre-treatment systems that require attention
- i. Sediment-laden water may be captured for disposal or pumped through a Dirtbag™.
- j. Replace any remaining Caps or Covers
- k. Record the back-flushing event in your Maintenance Log with any relevant specifics



**Company Responsible:
for Maintenance:**

Contact: _____

Phone Number: _____

[illegible]

APPENDIX 5

Preliminary R-Tank Details



FERGUSON
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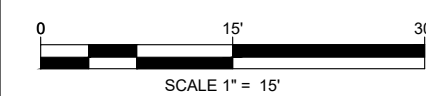


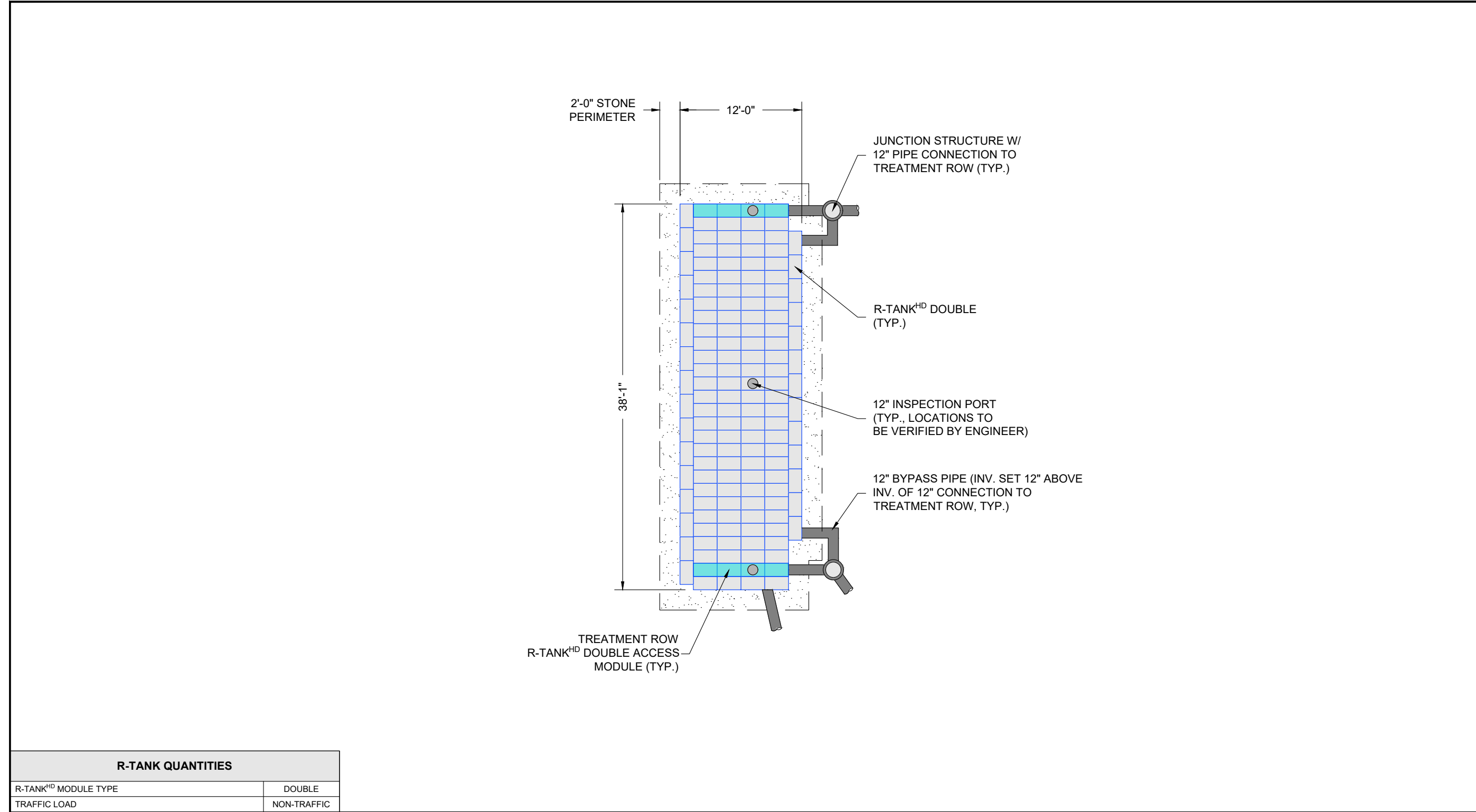
ENGINEER OF RECORD TO REVIEW, APPROVE AND
ENDORSE FINAL SITE SPECIFIC DESIGN.

R-TANK^{HD} SYSTEM OVERLAY
BERRY PARK EXPANSION
BIDDEFORD, ME

SCALE
1" = 15'
DRAWN BY
BMK
DATE
11/20/2023
SHEET NO.

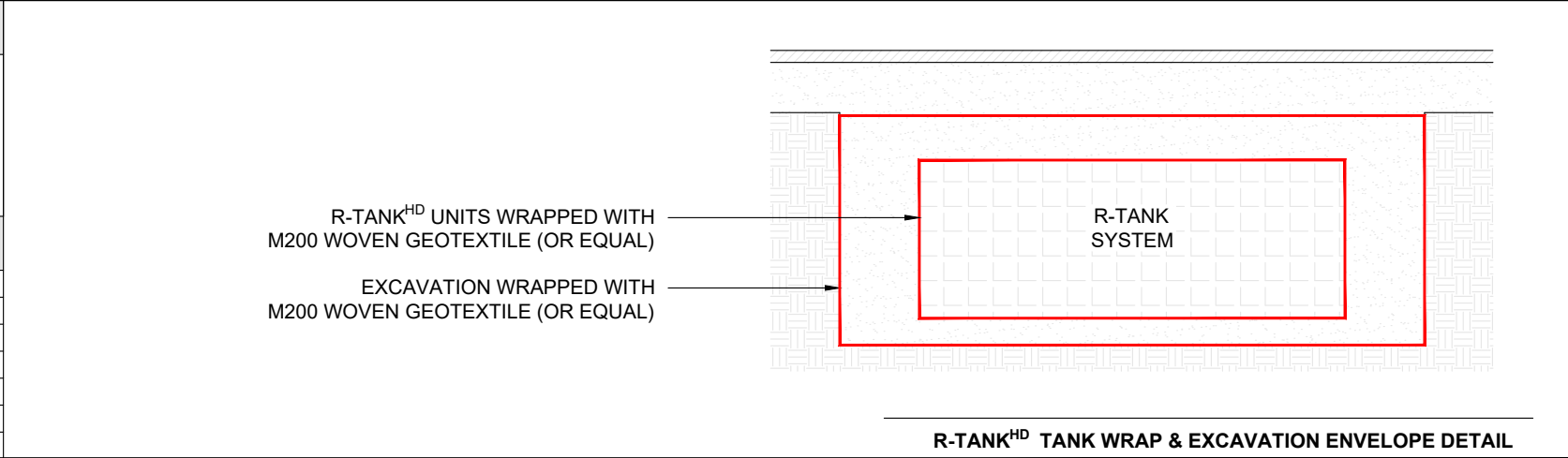
1 of 7





R-TANK QUANTITIES	
R-TANK ^{HD} MODULE TYPE	DOUBLE
TRAFFIC LOAD	NON-TRAFFIC
# OF DOUBLE R-TANKS	137
# OF DOUBLE R-TANK ACCESS MODULES	8
TOTAL SYSTEM STORAGE	1,773 CF
R-TANK STORAGE VOLUME	1,197 CF
STONE STORAGE VOLUME (40% VOID RATIO)	577 CF
STONE BED FOOTPRINT	663 SF
STONE QUANTITY	53 CY
M200 WOVEN GEOTEXTILE TANK WRAP	151 SY
M200 WOVEN GEOTEXTILE EXCAVATION WRAP	230 SY
8 OZ. NON-WOVEN GEOTEXTILE TREAT. ROW WRAP	19 SY
S300 WOVEN GEOTEXTILE TREAT. ROW BASE FABRIC	7 SY
12" INSPECTION PORTS	3
GEOTEXTILE PIPE BOOTS (12")	5
STORMRING CPS (12")	2
NOTE: STONE QUANTITY INCLUDES 12" OF COVER AND 3" OF BASE.	
NOTE: GEOTEXTILE / LINER QUANTITIES INCLUDE A 15% WASTE FACTOR.	
SEE SHEETS 3 - 7 FOR DETAILS AND ADDITIONAL INFORMATION	

GRAPHIC SCALE	
SCALE 1" = 10'	
R-TANK ELEVATIONS	
DESCRIPTION	ELEVATION
BASE INV.	132.00
TANK INV.	132.25
TOP OF TANK	135.07
GEOGRID	136.07
MIN. ALLOW. FINAL GRADE	136.07
MAX. ALLOW. FINAL GRADE	142.06



ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

FOR ADDITIONAL INFORMATION PLEASE CONTACT:
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R-TANK^{HD} SYSTEM LAYOUT
BERRY PARK EXPANSION
BIDDEFORD, ME

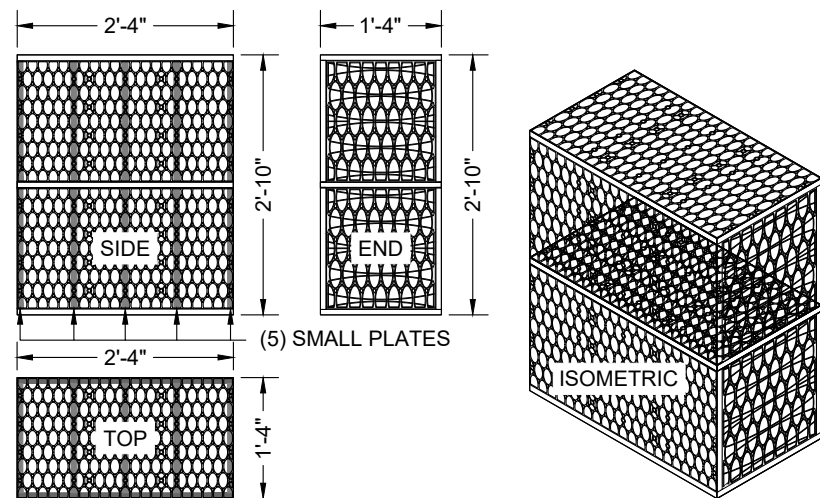
SCALE
1" = 10'

DRAWN BY
BMK

DATE
11/20/2023

SHEET NO.
2 of 7

86

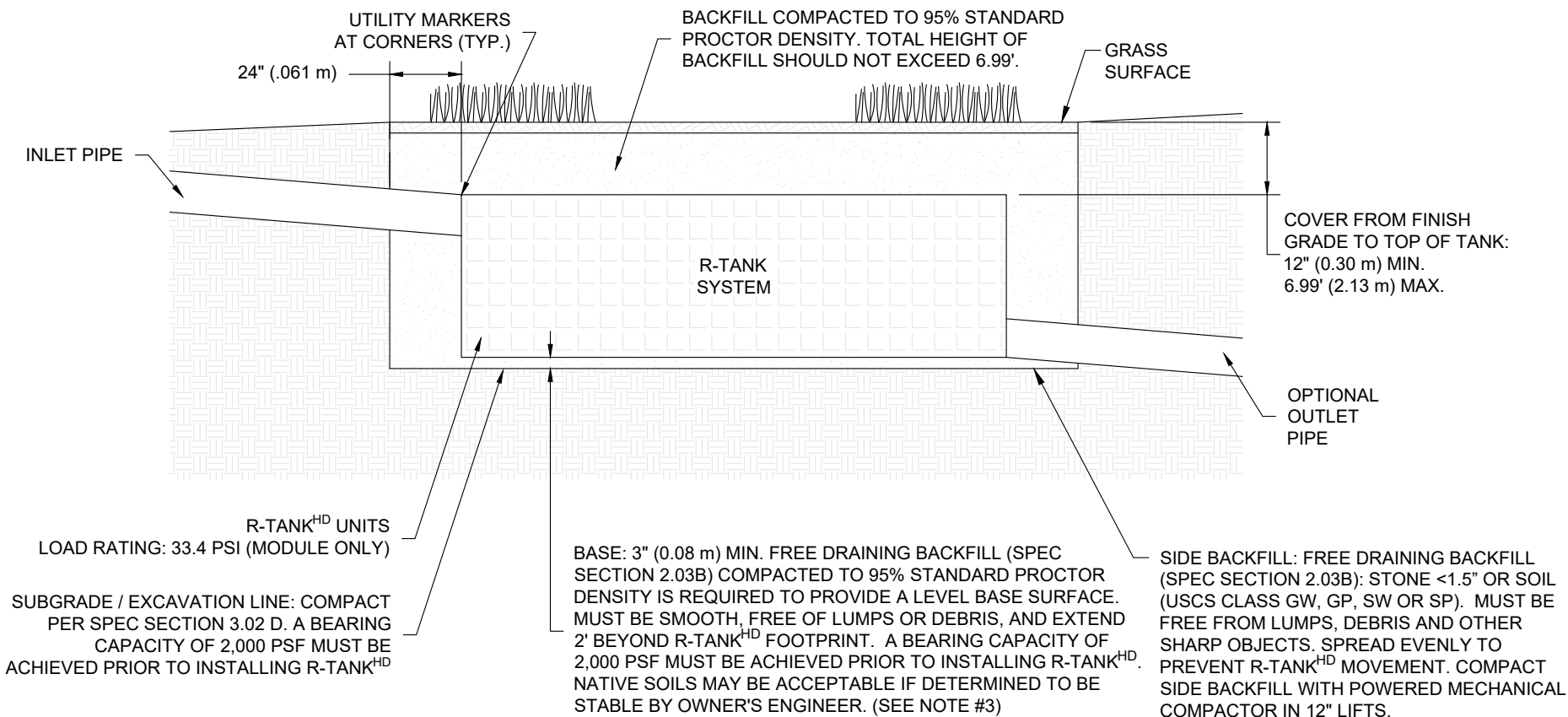


MODULE DATA

GEOMETRY:	LOAD RATING:
LENGTH = 28.15 IN. (715 MM)	33.4 PSI, (MODULE ONLY)
WIDTH = 15.75 IN. (400 MM)	HS20/HS25 - SEE SPEC FOR COVER REQUIREMENTS
HEIGHT = 33.86 IN. (860 MM)	MATERIAL:
TANK VOLUME = 8.69 CF	100% RECYCLED POLYPROPYLENE
STORAGE VOLUME = 8.25 CF	SMALL PLATES REQUIRED:
VOID INTERNAL VOLUME: 95%	5/SEGMENT, 10/MODULE
VOID SURFACE AREA: 90%	

DOUBLE R-TANK^{HD} - MODULE DETAIL

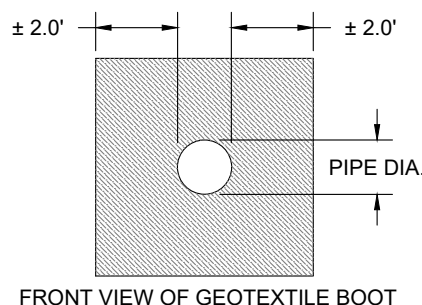
- NOTES:
- FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK^{HD} SHEET.
 - PRE-TREATMENT STRUCTURES NOT SHOWN.
 - FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK^{HD} FOOTPRINT.



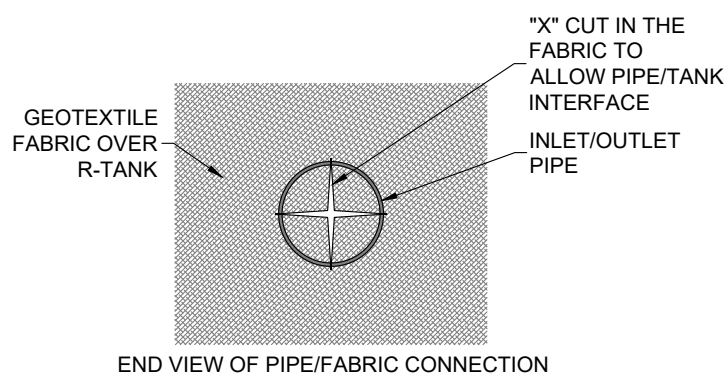
R-TANK^{HD} GREEN SPACE - SECTION VIEW

- NOTE:
- PIPE BOOTS ARE AVAILABLE IN THE FOLLOWING STANDARD SIZES: 8" | 12" | 15" | 18" | 24".
 - LARGER SPECIAL ORDER, CUSTOM SIZES ARE AVAILABLE.

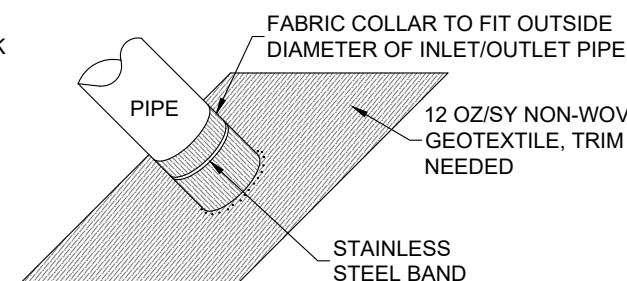
CUT AN "X" IN THE FABRIC ENVELOPE THAT IS SLIGHTLY LARGER THAN THE PIPE. PULL THE FABRIC FLAPS AROUND THE PIPE, AND SEAL WITH A STAINLESS STEEL BAND.



FRONT VIEW OF GEOTEXTILE BOOT

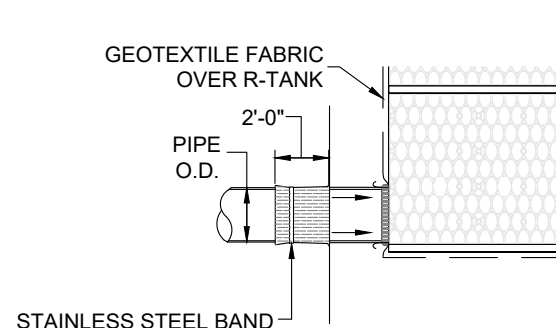


END VIEW OF PIPE/FABRIC CONNECTION

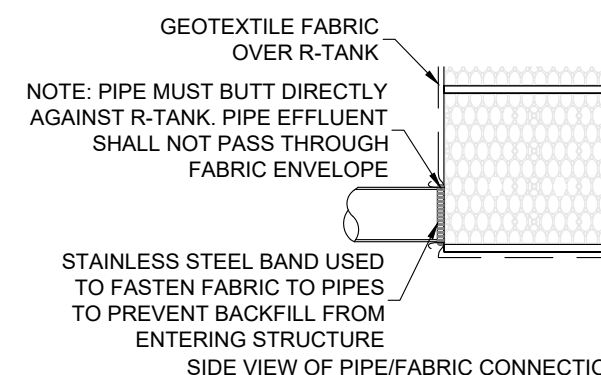


GEOTEXTILE BOOT

AFTER TANK WRAP IS SECURED TO PIPE, SLIDE BOOT AGAINST R-TANK AND SECURE WITH SECOND STAINLESS STEEL BAND, THEN ATTACH BOOT FLAP TO TANK ENVELOPE FABRIC WITH DUCT TAPE OR OTHER ADHESIVE.

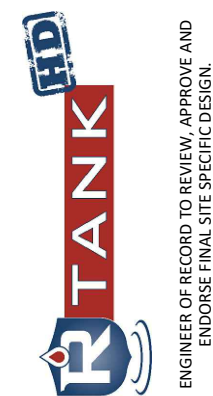


SIDE VIEW OF GEOTEXTILE BOOT



SIDE VIEW OF PIPE/FABRIC CONNECTION

R-TANK TYPICAL TANK INLET/OUTLET W/ GEOTEXTILE PIPE BOOT DETAIL



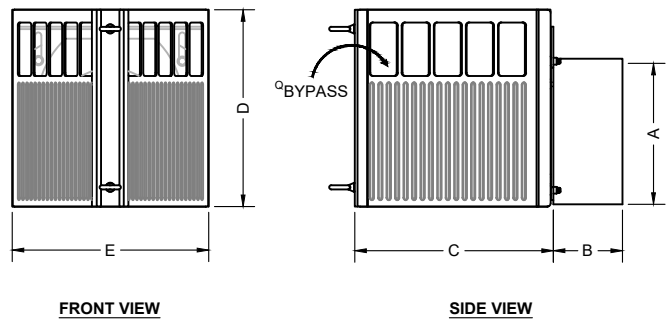
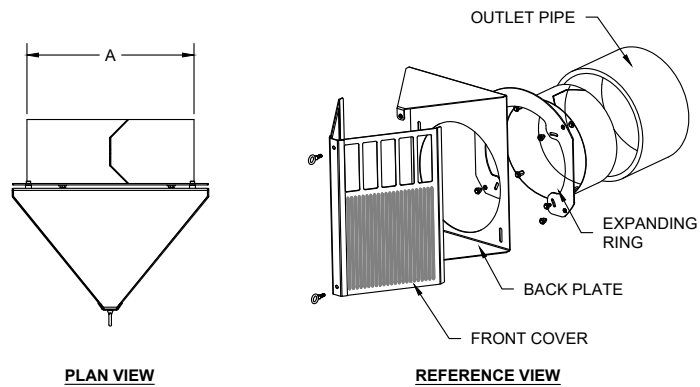
FERGUSON
WATERWORKS

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R-TANK^{HD} SYSTEM DETAILS
BERRY PARK EXPANSION
BIDDEFORD, ME

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SHEET NO.

3 of 7

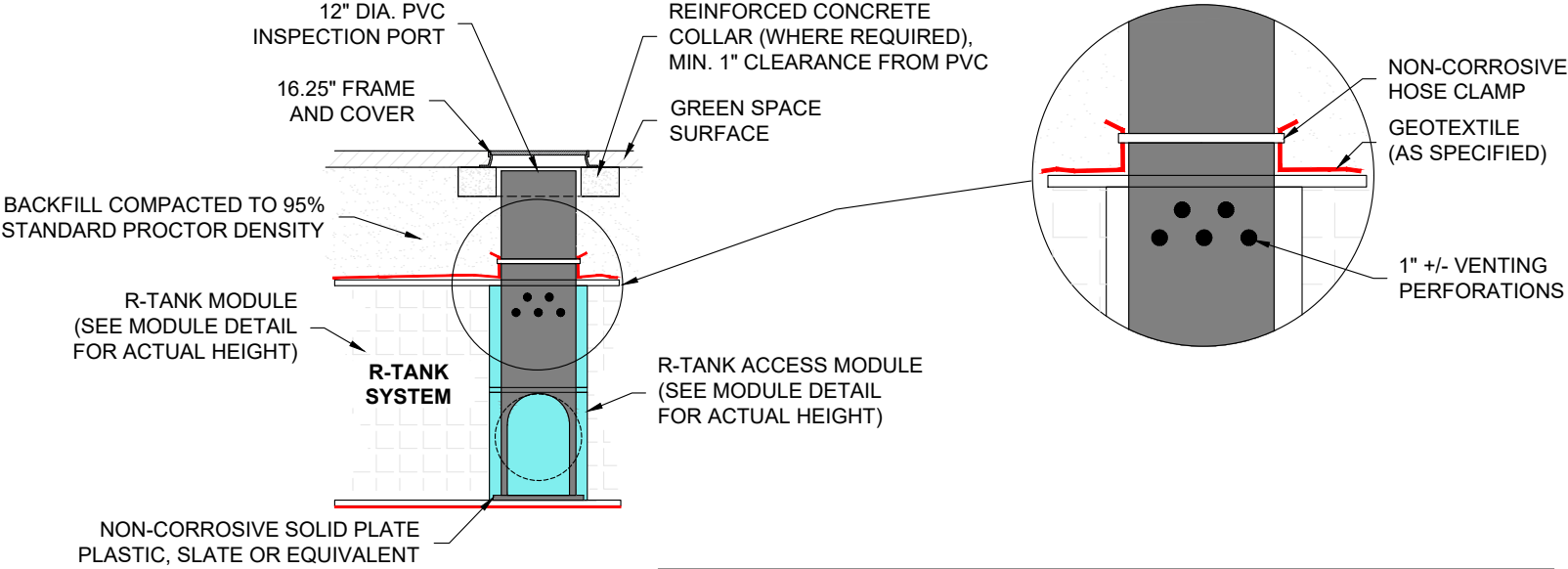
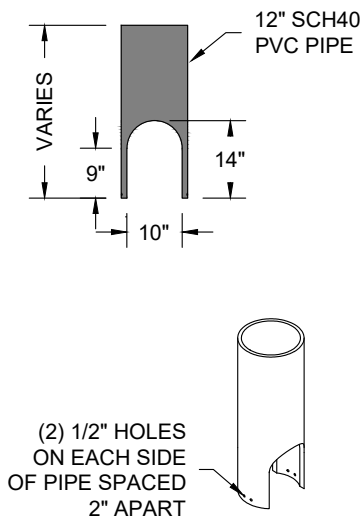


PART NUMBER	NOMINAL PIPE DIA.	EXPANDING COLLAR DIA. (A)		STUB LENGTH (B)	CPS DEPTH (C)	CPS HEIGHT (D)	CPS WIDTH (E)
		MIN.	MAX.				
SCA6-1	6"	5.63"	6.50"	6.00"	10.00"	10.13"	10.13"
SCA8-1	8"	7.50"	8.50"	6.00"	13.00"	11.88"	11.38"
SCA10-1	10"	9.50"	10.50"	8.00"	13.50"	13.50"	13.25"
SCA12-1	12"	11.38"	12.63"	8.00"	15.50"	15.38"	15.38"
SCA15-1	15"	14.25"	15.50"	8.00"	15.50"	21.38"	18.38"
SCA18-1	18"	17.38"	18.63"	8.00"	15.75"	28.00"	21.38"
SCA24-1	24"	23.25"	24.50"	9.00"	17.00"	40.00"	28.38"

STORMRING CPS PRETREATMENT DETAIL

NOTES

- 1. THE INSPECTION PORT IS USED IN THE ACCESS MODULE TO INSPECT THE LEVEL OF SEDIMENT ACCUMULATION.
- 2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
- 3. R-TANK^{HD}, R-TANK^{SD}, R-TANK^{UD} AND R-TANK^{XD} MAY BE USED IN TRAFFIC APPLICATIONS.
- 4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.
- 5. IF INSPECTION PORT IS LOCATED IN A NON-TRAFFIC AREA, A PLASTIC CAP CAN BE USED IN LIEU OF A FRAME AND COVER WITH CONCRETE COLLAR.



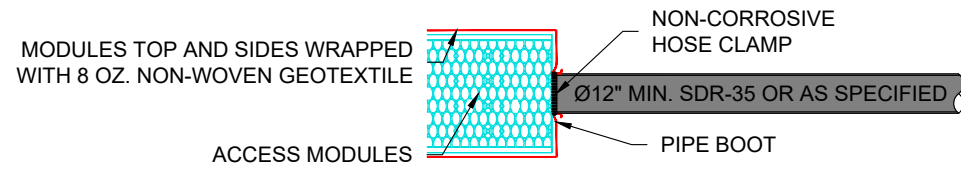
R-TANK TYPICAL VEHICULAR LOAD RATED INSPECTION PORT



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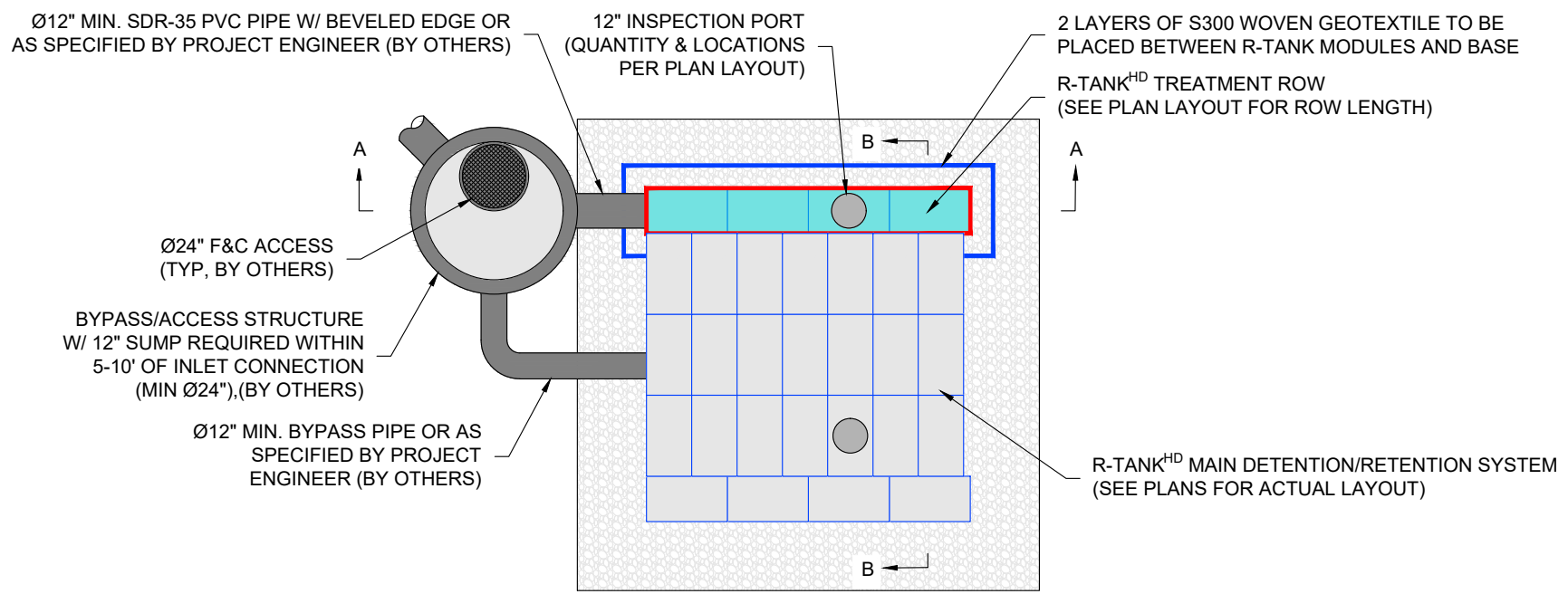
R-TANK^{HD} SYSTEM DETAILS
BERRY PARK EXPANSION
BIDDEFORD, ME

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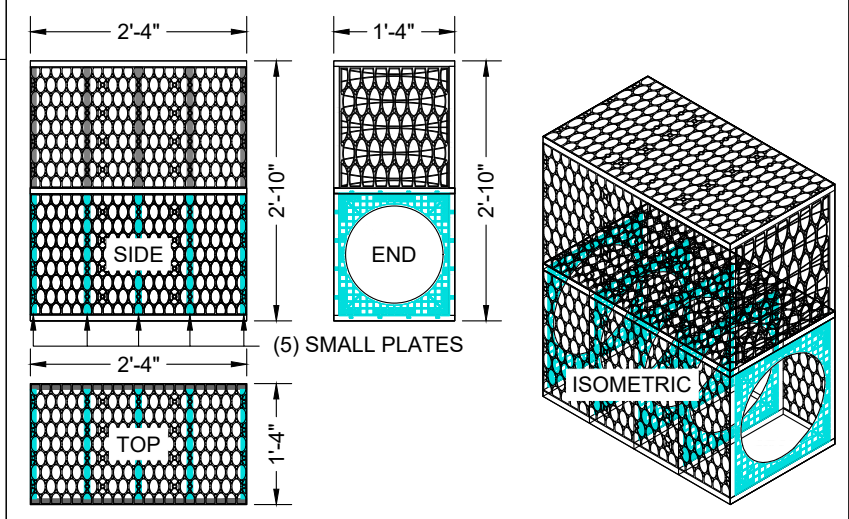


NOTE:
IF PIPE CONNECTING TO TREATMENT ROW
IS LARGER THAN Ø12" SDR-35, IT SHALL BE
ABUTTED FLUSH TO END PLATE AND
SEALED WITH A PIPE BOOT.

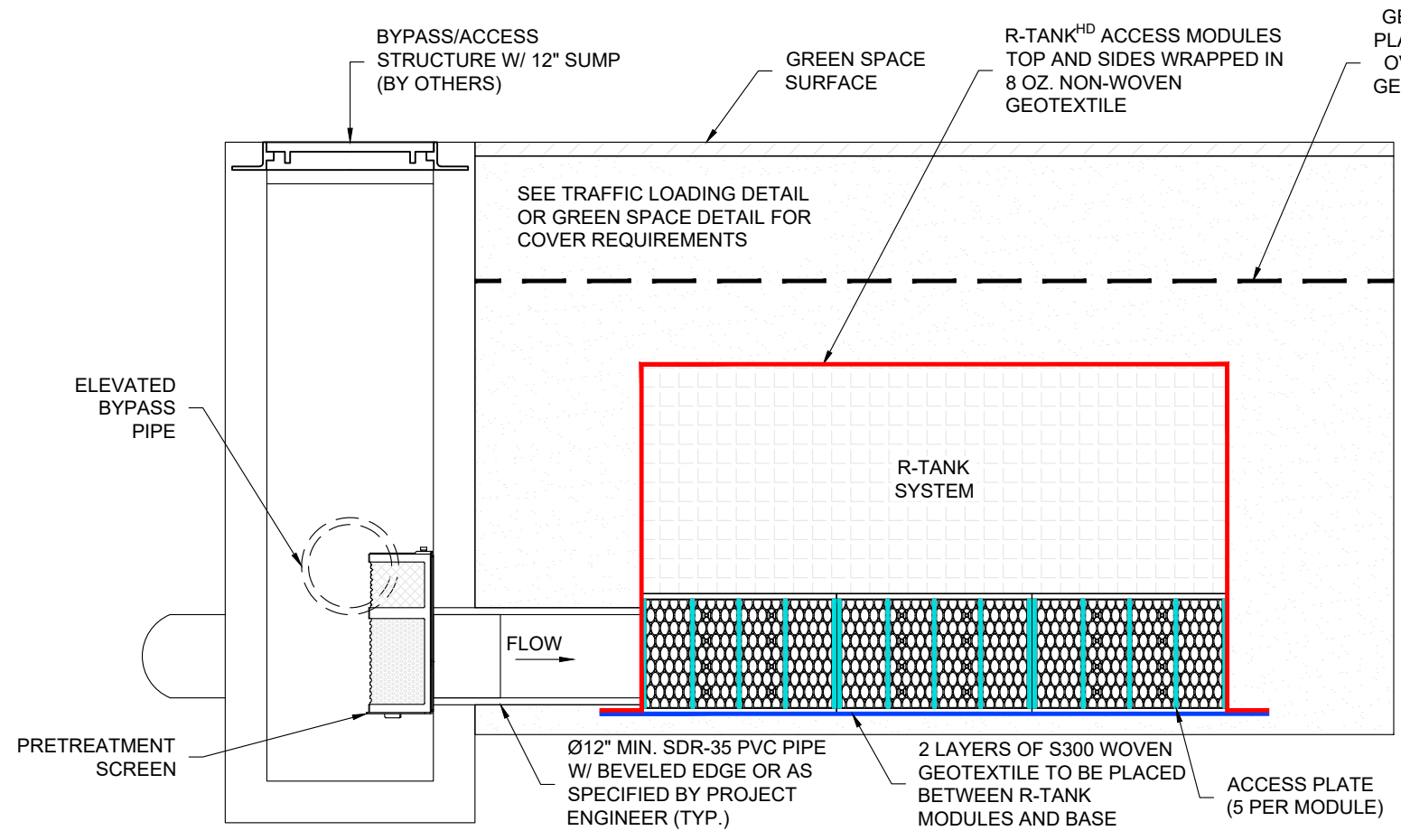
TYPICAL PIPE CONNECTION DETAIL



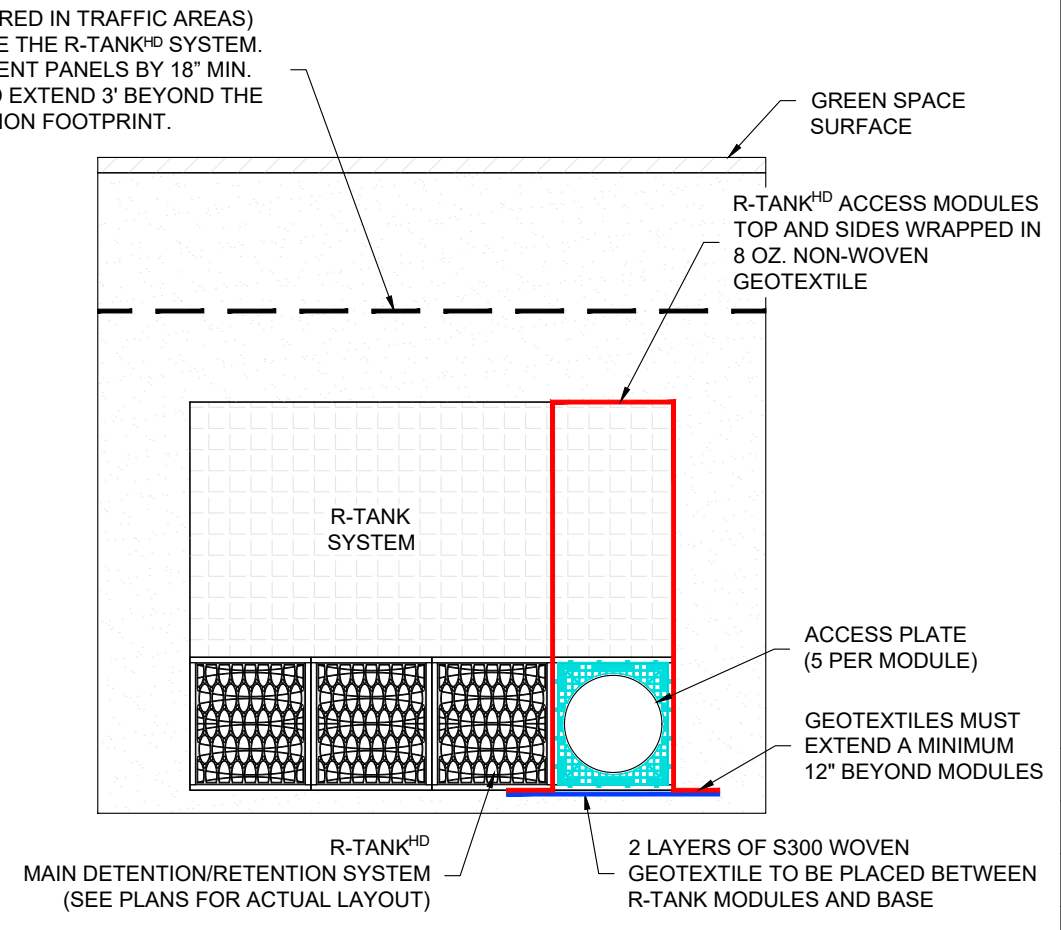
R-TANK^{HD} TREATMENT ROW WITH PRECAST INLET/ACCESS STRUCTURE



DOUBLE R-TANK^{HD} - ACCESS MODULE DETAIL
(FOR MODULE DATA, SEE STANDARD MODULE DETAIL)



R-TANK^{HD} TREATMENT ROW SECTION A-A



R-TANK^{HD} TREATMENT ROW SECTION B-B



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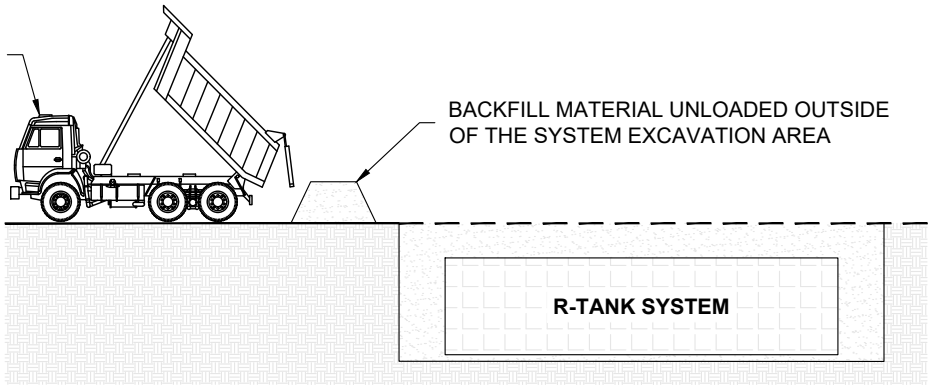


ENGINEER OF RECORD TO REVIEW, APPROVE AND
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R-TANK^{HD} TREATMENT ROW DETAILS
BERRY PARK EXPANSION
BIDDEFORD, ME

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DUMP TRUCKS AND PANS SHALL NOT OPERATE OVER THE SYSTEM EXCAVATION AREA



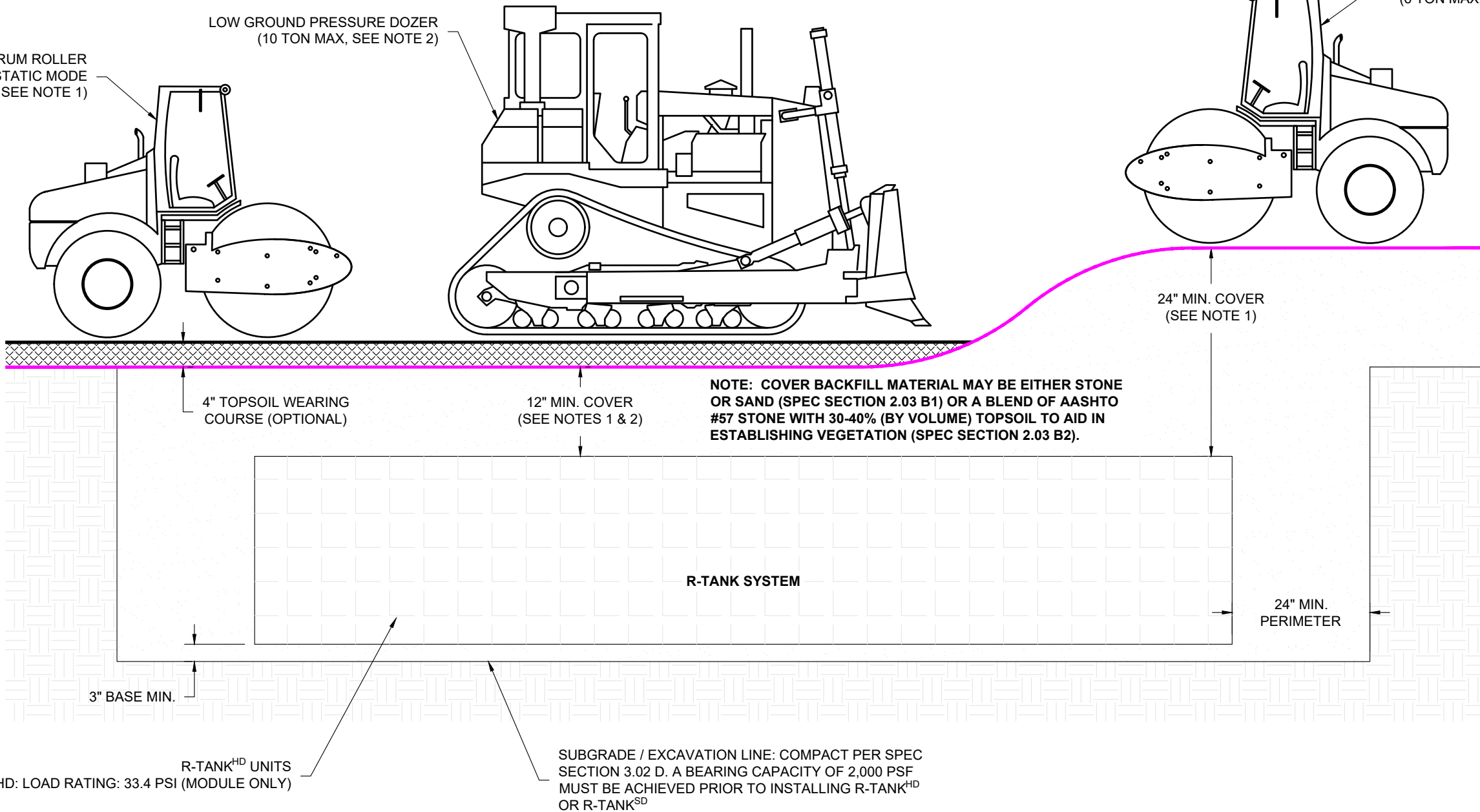
DUMP TRUCK DETAIL (SEE NOTE 3)

- NOTES:
1. FOLLOWING PLACEMENT OF SIDE BACKFILL, A UNIFORM 12" LIFT OF THE FREELY DRAINING MATERIAL (SPEC SECTION 2.03 B2) SHALL BE PLACED OVER THE R-TANK AND LIGHTLY COMPACTED USING A WALK-BEHIND TRENCH ROLLER. ALTERNATELY, A ROLLER (MAXIMUM GROSS VEHICLE WEIGHT OF 6 TONS) MAY BE USED. ROLLER MUST REMAIN IN STATIC MODE UNTIL A MINIMUM OF 24" OF COVER HAS BEEN PLACED OVER THE MODULES. SHEEP FOOT ROLLERS SHOULD NOT BE USED. **SPEC SECTION 3.05 A5**
 2. ONLY LOW PRESSURE TIRE OR TRACK VEHICLES (LESS THAN 7 PSI AND OPERATING WEIGHT OF LESS THAN 20,000 LBS) SHALL BE OPERATED OVER THE R-TANK SYSTEM DURING CONSTRUCTION. **SPEC SECTION 3.05 A5**
 3. DUMP TRUCKS AND PANS SHALL NOT BE OPERATED WITHIN THE R-TANK SYSTEM AT ANY TIME. WHERE NECESSARY, THE HEAVY EQUIPMENT SHOULD UNLOAD IN AN AREA ADJACENT TO THE R-TANK SYSTEM AND THE MATERIAL SHOULD BE MOVED OVER THE SYSTEM WITH TRACKED EQUIPMENT. **SPEC SECTION 3.05 A5**
 4. ENSURE THAT ALL UNRELATED CONSTRUCTION TRAFFIC IS KEPT AWAY FROM THE LIMITS OF EXCAVATION UNTIL THE PROJECT IS COMPLETE AND FINAL SURFACE MATERIALS ARE IN PLACE. NO NON-INSTALLATION RELATED LOADING SHOULD BE ALLOWED OVER THE R-TANK SYSTEM UNTIL THE FINAL DESIGN SECTION HAS BEEN CONSTRUCTED (INCLUDING PAVEMENT). **SPEC SECTION 3.05 B**
 5. SEE R-TANK INSTALLATION GUIDE OR CONTACT YOUR LOCAL FERGUSON REPRESENTATIVE FOR ADDITIONAL INFORMATION.

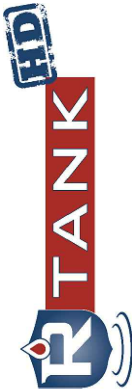
SMOOTH DRUM ROLLER
STATIC MODE
(6 TON MAX, SEE NOTE 1)

LOW GROUND PRESSURE DOZER
(10 TON MAX, SEE NOTE 2)

SMOOTH DRUM ROLLER
VIBRATORY MODE
(6 TON MAX, SEE NOTE 1)



CONSTRUCTION EQUIPMENT COVER DETAIL - GREEN SPACE



ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

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R-TANK^{HD} CONSTRUCTION EQUIPMENT
COVER DETAIL
BERRY PARK EXPANSION
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6 of 7

R-TANK SPECIFICATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, technical specification and general provisions of the Contract as modified herein apply to this section.

1.02 DESCRIPTION OF WORK INCLUDED

- A. Provide excavation and base preparation per geotechnical engineer's recommendations and/or as shown on the design drawings, to provide adequate support for project design loads and safety from excavation sidewall collapse. Excavations shall be in accordance with the owner's and OSHA requirements.
- B. Provide and install R-TankLD/, R-TankHD/, R-TankSD/, or R-TankUD/ system (hereafter called R-Tank) and all related products including fill materials, geotextiles, geogrids, inlet and outlet pipe with connections per the manufacturer's installation guidelines provided in this section.
- C. Provide and construct the cover of the R-Tank system including; stone backfill, structural fill cover, and pavement section as specified.
- D. Protect R-Tank system from construction traffic after installation until completion of all construction activity in the installation area.

1.03 QUALITY CONTROL

- A. All materials shall be manufactured in ISO certified facilities.
- B. Installation Contractor shall demonstrate the following experience:
1. A minimum of three R-Tank or equivalent projects completed within 2 years; and,
2. A minimum of 25,000 cubic feet of storage volume completed within 2 years.
3. Contractor experience requirement may be waived if the manufacturer's representative provides on-site training and review during construction.
- C. Installation Personnel: Performed only by skilled workers with satisfactory record of performance on bulk earthworks, pipe, chamber, or pond/landfill construction projects of comparable size and quality.
- D. Contractor must have manufacturer's representative available for site review if requested by Owner.

1.04 SUBMITTALS

- A. Submit proposed R-Tank layout drawings. Drawings shall include typical section details as well as the required base elevation of stone and tanks, minimum cover requirements and tank configuration.
- B. Submit manufacturer's product data, including compressive strength and unit weight.
- C. Submit manufacturer's installation instructions.
- D. Submit R-Tank sample for review. Reviewed and accepted samples will be returned to the Contractor.
- E. Submit material certificates for geotextile, geogrid, base course and backfill materials.
- F. Submit required experience and personnel requirements as specified in Section 1.03.
- G. Any proposed equal alternative product substitution to this specification must be submitted for review and approved prior to bid opening. Review package should include third party reviewed performance data that meets or exceeds criteria in Table 2.01 B.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect R-Tank and other materials from damage during delivery, and store UV sensitive materials under tarp to protect from sunlight when time from delivery to installation exceeds two weeks. Storage of materials should be on smooth surfaces, free from dirt, mud and debris.
- B. Handling is to be performed with equipment appropriate to the materials and site conditions, and may include hand, handcart, forklifts, extension lifts, etc.
- C. Cold weather:
1. Care must be taken when handling plastics when air temperature is 40 degrees or below as plastic becomes brittle.
2. Do not use frozen materials or materials mixed or coated with ice or frost.
3. Do not build on frozen ground or wet, saturated or muddy subgrade.

1.06 PREINSTALLATION CONFERENCE.

- A. Prior to the start of the installation, a preinstallation conference shall occur with the representatives from the design team, the general contractor, the excavation contractor, the R-Tank installation contractor, and the manufacturer's representative.

1.07 PROJECT CONDITIONS

- A. Coordinate installation for the R-Tank system with other on-site activities to eliminate all non-installation related construction traffic over the completed R-Tank system. No loads heavier than the design loads shall be allowed over the system, and in no case shall loads higher than a standard AASHTO HS20 (or HS25, depending on design criteria) load be allowed on the system at any time.
- B. Protect adjacent work from damage during R-Tank system installation.
- C. All pre-treatment systems to remove debris and heavy sediments must be in place and functional prior to operation of the R-Tank system. Additional pretreatment measures may be needed if unit is operational during construction due to increased sediment loads.
- D. Contractor is responsible for any damage to the system during construction.

PART 2 - PRODUCTS

2.01 R-TANK UNITS

- A. R-Tank - Injection molded plastic tank plates assembled to form a 95% void modular structure of predesigned height (custom for each project).
- B. R-Tank units shall meet the following Physical & Chemical Characteristics:

PROPERTY	DESCRIPTION	R-Tank ^{LD} VALUE	R-Tank ^{HD} VALUE	R-Tank ^{SD} VALUE	R-Tank ^{UD} VALUE
Void Area	Volume available for water storage	95%	95%	95%	95%
Surface Void Area	Percentage of exterior available for infiltration	90%	90%	90%	90%
Vertical Compressive Strength	ASTM D 2412 / ASTM F 2418	30.0 psi	33.4 psi	42.9 psi	134.2 psi
Lateral Compressive Strength	ASTM D 2412 / ASTM F 2418	20.0 psi	22.4 psi	28.9 psi	N/A
HS-20 Minimum Cover	Cover required to support HS-20 loads	N/A	20"	18"	12" (STONE BACKFILL)
HS-25 Minimum Cover	Cover required to support HS-25 loads	N/A	24"	19"	15" (STONE BACKFILL)
Maximum Cover	Maximum allowable cover depth	3 feet	< 7 feet	< 10 feet	5 feet
Unit Weight	Weight of plastic per cubic foot of tank	3.29 lbs / cf	3.62 lbs/cf	3.96 lbs / cf	4.33 lbs / cf
Rib Thickness	Thickness of load-bearing members	0.18 inches	0.18 inches	0.18 inches	N/A
Service Temperature	Safe temperature range for use	-14 – 167° F	-14 – 167° F	-14 – 167° F	-14 – 167° F

- C. Supplier: Ferguson Waterworks 2831 Cardwell Road Richmond, VA 23234 (T): 800-448-3636; (F): 804-743-7779 www.ferguson.com

2.02 GEOSYNTHETICS

- A. Geotextile. A geotextile envelope is required to prevent backfill material from entering the R-Tank modules.
1. Standard Application: The standard geotextile shall be an 8 oz per square yard nonwoven geotextile (ACF N080 or equivalent).
2. Infiltration Applications: When water must infiltrate/exfiltrate through the geotextile as a function of the system design, a woven monofilament (ACF M200 or equivalent) shall be used.
- B. Geogrid. For installations subject to traffic loads and/or when required by project plans, install geogrid (ACF BX12 or equivalent) to reinforce backfill above the R-Tank system. Geogrid is not always required for R-TankUD/ installations, and is often not required for non-traffic load applications.

2.03 BACKFILL & COVER MATERIALS

- A. Bedding Materials: Stone (angular and smaller than 1.5" in diameter) or soil (GW, GP, SW, or SP as classified by the Unified Soil Classification System) shall be used below the R-Tank system (3" minimum). Material must be free from lumps, debris, and any sharp objects that could cut the geotextile. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation. For infiltration applications bedding material shall be free draining.
- B. Side and Top Backfill: Material must be free from lumps, debris and any sharp objects that could cut the geotextile. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation.
1. Traffic Applications - Free draining material shall be used adjacent to (24" minimum) and above (for the first 12") the R-Tank system.
- a. For HD, and SD modules, backfill materials shall be free draining stone (angular and smaller than 1.5" in diameter) or soil (GW, GP, SW, or SP as classified by the Unified Soil Classification System).
- b. For UD modules with less than 14" of top cover, backfill materials shall be free draining stone (angular and smaller than 1.5" in diameter). The use of soil backfill on the sides and top of the UD module is not permitted unless the modules are installed outside of traffic areas or with cover depths of 14" or more. Top backfill material (from top of module to bottom of pavement base or 12" maximum) must be consistent with side backfill.
2. Non-Traffic / Green Space Applications - For all R-Tank modules installed in green spaces and not subjected to vehicular loads, backfill materials may either follow the guidelines for Traffic Applications above, or the top backfill layer (12" minimum) may consist of AASHTO #57 stone blended with 30-40% (by volume) topsoil to aid in establishing vegetation.
- C. Additional Cover Materials: Structural Fill shall consist of granular materials meeting the gradational requirements of SM, SP, SW, GM, GP or GW as classified by the Unified Soil Classification System. Structural fill shall have a maximum of 25 percent passing the No. 200 sieve, shall have a maximum clay content of 10 percent and a maximum Plasticity Index of 4. Material shall be within 3 percent of the optimum moisture content as determined by ASTM D698 at the time of installation.

2.04 OTHER MATERIALS

- A. Utility Marker: Install metallic tape at corners of R-Tank system to mark the area for future utility detection.

PART 3 - EXECUTION

3.01 ASSEMBLY OF R-TANK UNITS

- A. Assembly of modules shall be performed in accordance with the R-Tank Installation Manual, Section 2.

3.02 LAYOUT AND EXCAVATION

- A. Installer shall stake out, excavate, and prepare the subgrade area to the required plan grades and dimensions, ensuring that the excavation is at least 2 feet greater than R-Tank dimensions in each direction allowing for installation of geotextile filter fabric, R-Tank modules, and free draining backfill materials.
- B. All excavations must be prepared with OSHA approved excavated sides and sufficient working space.
- C. Protect partially completed installation against damage from other construction traffic by establishing a perimeter with high visibility construction tape, fencing, barricades, or other means until construction is complete.
- D. Base of the excavation shall be uniform, level, and free of lumps or debris and soft or yielding subgrade areas. A minimum 2,000 pounds per square foot bearing capacity is required.
1. Standard Applications: Compact subgrade to a minimum of 95% of Standard Proctor (ASTM D698) density or as required by the Owner's engineer.
2. Infiltration Applications: Subgrade shall be prepared in accordance with the contract documents. Compaction of subgrade should not be performed in infiltration applications.
- E. Unsuitable Soils or Conditions: All questions about the base of the excavation shall be directed to the owner's engineer, who will approve the subgrade conditions prior to placement of stone. The owner's engineer shall determine the required bearing capacity of the R-Tank subgrade; however in no case shall a bearing capacity of less than 2,000 pounds per square foot be provided.
1. If unsuitable soils are encountered at the subgrade, or if the subgrade is pumping or appears excessively soft, repair the area in accordance with contract documents and/or as directed by the owner's engineer.
2. If indications of the water table are observed during excavation, the engineer shall be contacted to provide recommendations.
3. Do not start installation of the R-Tank system until unsatisfactory subgrade conditions are corrected and the subgrade conditions are accepted by the owner's engineer.

3.03 PREPARATION OF BASE

- A. Place a thin layer (3" unless otherwise specified) of bedding material (Section 2.03 A), over the subgrade to establish a level working platform for the R-Tank modules. Level to within 1/8" (+/- 1/4") or as shown on the plans. Native subgrade soils or other materials may be used if determined to meet the requirements of 2.03 A and are accepted by the owner's engineer.
1. Standard Applications: Static roll or otherwise compact bedding materials until they are firm and unyielding.
2. Infiltration Applications: Bedding materials shall be prepared in accordance with the contract documents.
- B. Outline the footprint of the R-Tank system on the excavation floor using spray paint or chalk line to ensure a 2' perimeter is available around the R-Tank system for proper installation and compaction of backfill.

3.04 INSTALLATION OF THE R-TANKS

- A. Where a geotextile wrap is specified on the stone base, cut strips to length and install in excavation, removing wrinkles so material lays flat. Overlap geotextile a minimum 12" or as recommended by manufacturer. Use tape, special adhesives, sandbags or other ballast to secure overlaps. As geotextiles can be damaged by extreme heat, smoking is not permissible on/near the geotextile, and tools using a flame to tack the overlaps, such as propane torches, are prohibited.
- B. Where an impervious liner (for containment) is specified, install the liner per manufacturer's recommendations and the contract documents. The R-Tank units shall be separated from impervious liner by a non-woven geotextile fabric installed accordance with Section 3.04A.
- C. Install R-Tank modules by placing side by side, in accordance with the design drawings. No lateral connections are required. It is advisable to use a string line to form square corners and straight edges along the perimeter of the R-Tank system. The modules are to be oriented as per the design drawing with required depth as shown on plans.
1. For LD, HD, and SD installations, the large side plate of the tank should be placed on the perimeter of the system. This will typically require that the two ends of the tank area will have a row of tanks placed perpendicular to all other tanks. If this is not shown in the construction drawings, it is a simple field adjustment that will have minimal effect on the overall system footprint. Refer to R-Tank Installation Guide for more details
2. For UD installations, there is no perpendicular end row required.
- D. Wrap the R-Tank top and sides in specified geotextile. Cut strips of geotextile so that it will cover the sides and top, encapsulating the entire system to prevent backfill entry into the system. Overlap geotextile 12" or as recommended by manufacturer. Take great care to avoid damage to geotextile (and, if specified, impervious liner) during placement.
- E. Identify locations of inlet, outlet and any other penetrations of the geotextile (and optional liner). These connections should be installed flush (buted up to the R-Tank) and the geotextile fabric shall be cut to enable hydraulic continuity between the connections and the R-Tank units. These connections shall be secured using pipe boots with stainless steel pipe clamps. Support pipe in trenches during backfill operations to prevent pipe from settling and damaging the geotextile, impervious liner (if specified) or pipe. Connecting pipes at 90 degree angles facilitates construction, unless otherwise specified. Ensure end of pipe is installed snug against R-Tank system.
- F. Install Inspection and Maintenance Ports in locations noted on plans. At a minimum one maintenance port shall be installed within 10' of each inlet & outlet connection, and with a maximum spacing of one maintenance port for every 2,500 square feet. Install all ports as noted in the R-Tank Installation Guide.
- G. If required, install ventilation pipes and vents as specified on drawings to provide ventilation for proper hydraulic performance. The number of pipes and vents will depend on the size of the system. Vents are often installed using a 90 degree elbow with PVC pipe into a landscaped area with "U" bend or venting bollard to inhibit the ingress of debris. A ground level concrete or steel cover can be used.

3.05 BACKFILLING OF THE R-TANK UNITS

- A. Backfill and fill with recommended materials as follows:
1. Place freely draining backfill materials (Section 2.03 B) around the perimeter in lifts with a maximum thickness of 12". Each lift shall be placed around the entire perimeter such that each lift is no more than 24" higher than the side backfill along any other location on the perimeter of the R-Tank system. No fill shall be placed over top of tanks until the side backfill has been completed.
2. Each lift shall be compacted at the specified moisture content to a minimum of 95% of the Standard Proctor Density until no further densification is observed (for self-compacting stone materials). The side lifts must be compacted with walk behind compaction equipment. Even when "self-compacting" backfill materials are selected, a walk behind vibratory compactor must be used.
3. Take care to ensure that the compaction process does not allow the machinery to come into contact with the modules due to the potential for damage to the geotextile and R-Tank units.
4. No compaction equipment is permissible to operate directly on the R-Tank modules.
5. Top Backfill: Only low pressure track vehicles shall be operated over the R-Tank system during construction. Dump Trucks and Pans shall not be operated within the R-Tank system footprint at any time. Heavy equipment should unload in an area adjacent to the R-Tank system and the material should be moved over the system using tracked equipment with an operating weight of less than 10 tons.
- a. Typical Applications: Install a 12" (or as shown on plans) lift of freely draining material (Section 2.03 B) over the R-Tank Units, maintaining 12" between equipment tracks and R-Tank System. Lightly compacted using a walk-behind trench roller. Alternately, a roller (maximum gross vehicle weight of 6 tons) may be used. Roller must remain in static mode until a minimum of 24" of cover has been placed over the modules. Sheep foot rollers should not be used.
- b. Shallow Applications (< 18" total cover): Install top backfill in accordance with plans.
6. If required, install a geogrid as shown on plans. Geogrid shall extend a minimum of 3 feet beyond the limits of the excavation wall.
7. Following placement and compaction of the initial cover, subsequent lifts of structural fill (Section 2.03 C) shall be placed at the specified moisture content and compacted to a minimum of 95% of the Standard Proctor Density and shall cover the entire footprint of the R-Tank system. During placement of fill above the system, unless otherwise specified, a uniform elevation of fill shall be maintained to within 12" across the footprint of the R-Tank system. Do not exceed maximum cover depths listed in Table 2.01 B.
8. Place additional layers of geotextile and/or geogrid at elevations as specified in the design details. Each layer of geosynthetic reinforcement placed above the R-Tank system shall extend a minimum of 3 feet beyond the limits of the excavation wall.
- B. Ensure that all unrelated construction traffic is kept away from the limits of excavation until the project is complete and final surface materials are in place. No non-installation related loading should be allowed over the R-Tank system until the final design section has been constructed (including pavement).
- C. Place surfacing materials, such as groundcovers (no large trees), or paving materials over the structure with care to avoid displacement of cover fill and damage to surrounding areas.
- D. Backfill depth over R-Tank system must be within the limitations shown in the table in Section 2.01 B. If the total backfill depth does not comply with this table, contact engineer or manufacturer's representative for assistance.

3.06 MAINTENANCE REQUIREMENTS

- A. A routine maintenance effort is required to ensure proper performance of the R-Tank system. The Maintenance program should be focused on pretreatment systems. Ensuring these structures are clean and functioning properly will reduce the risk of contamination of the R-Tank system and stormwater released from the site. Pre-treatment systems shall be inspected yearly, or as directed by the regulatory agency and by the manufacturer (for proprietary systems). Maintain as needed using acceptable practices or following manufacturer's guidelines (for proprietary systems).
- B. All inlet pipes and Inspection and/or Maintenance Ports in the R-Tank system will need to be inspected for accumulation of sediments at least quarterly through the first year of operation and at least yearly thereafter.
- C. If sediment has accumulated to the level noted in the R-Tank Maintenance Guide or beyond a level acceptable to the Owner's engineer, the R-Tank system should be flushed.
- D. All inspection and maintenance activities should be performed in accordance with the R-Tank Operation, Inspection & Maintenance Manual.

HD



ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.



FOR ADDITIONAL INFORMATION PLEASE CONTACT:

FERGUSON WATERWORKS,
1-800-448-3636, www.ferguson.com

R-TANK^{HD} SPECIFICATION
BERRY PARK EXPANSION
BIDDEFORD, ME

SCALE
NTS

DRAWN BY
BMK

DATE
11/20/2023

SHEET NO.

7 of 7

APPENDIX 6

Standardized Stormwater Tables

PROJECT NAME - PREDEVELOPMENT LAND COVER SUMMARY							
Drainage Area	Area (SF)	Area (AC)	Subdrainage Land Cover Areas			Composite CN	Tc (hours)
			Impervious Area (SF)	Gravel Area HSG 'X' (SF)	Pervious Area HSG 'X' (SF)		
			CN: 98	CN: #	CN: #		
1	27,275	0.63	858	0	26,417	73.0	0.13
#							
#							
#							
#							
TOTAL	27,275	0.63	858	0	26,417	73	-

*If a drainage area contains multiple soil types with differing HSG classifications (i.e. 'C' vs 'D'), additional columns should be added for each pervious & gravel hydrologic soil group types (HSG).

PROJECT NAME - POSTDEVELOPMENT LAND COVER SUMMARY							
Drainage Area	Area (SF)	Area (AC)	Subdrainage Land Cover Areas			Composite CN	Tc (hours)
			Impervious Area (SF)	Gravel Area HSG 'X' (SF)	Pervious Area HSG 'X' (SF)		
			CN: 98	CN: #	CN: #		
10	15,797	0.36	12,363	0	3,434	93.0	0.08
11	1,604	0.04	590	0	1,014	83.0	0.11
12	9,878	0.23	2,501	0	7,377	80.0	0.18
#							
#							
TOTAL	27,279	0.63	15,454	0	11,825	87.6	-

*If a drainage area contains multiple soil types with differing HSG classifications (i.e. 'C' vs 'D'), additional columns should be added for each pervious & gravel hydrologic soil group types (HSG).

33.48

3.32

18.4

87.6190476

PROJECT NAME - LAND COVER CURVE NUMBER SUMMARY TABLE				
USDA-NRCS SOIL CLASSIFICATION	HYDROLOGIC SOIL GROUP (HSG)	LAND COVER TYPES - CURVE NUMBERS		
		Impervious	Gravel	Pervious, Good
ROOF/PAVEMENT	C	98		
URBAN FILL	C			73

Source: *Urban Hydrology for Small Watersheds - TR-55*

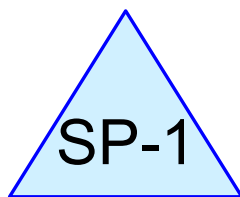
BIDDEFORD - 24 HR RAINFALL DEPTHS	
2-YR	3.3 in
10-YR	4.9 in
25-YR	6.2 in
100-YR	8.7 in

*Per Appendix H of DEP's Chapter 500; Type III Storm

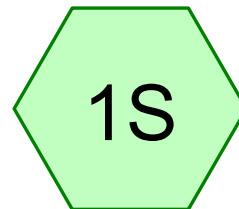
PROJECT NAME - STORMWATER RUNOFF DISCHARGE SUMMARY				
	STORM FREQUENCY	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (CFS)	NOTES
POI-1	Q ₂	0.67	0.61	
	Q ₁₀	1.49	1.47	
	Q ₂₅	2.22	1.96	
	Q ₁₀₀	3.7	3.23	
POI-2	Q ₂	0	0.07	
	Q ₁₀	0	0.13	
	Q ₂₅	0	0.18	
	Q ₁₀₀	0	0.27	
TOTAL	Q ₂	0.67	0.68	
	Q ₁₀	1.49	1.6	
	Q ₂₅	2.22	2.14	
	Q ₁₀₀	3.7	3.5	

APPENDIX 7

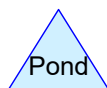
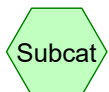
PRE-DEVELOPMENT HYDROCAD MODEL



(new Pond)



(new Subcat)



Routing Diagram for PRE
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PRE

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.354	74	>75% Grass cover, Good, HSG C (1S)
0.020	98	EXISTING IMP (1S)
0.252	70	Woods, Good, HSG C (1S)
0.626	73	TOTAL AREA

PRE*Type III 24-hr 2-YR Rainfall=3.30"*

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Page 3

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=27,275 sf 3.15% Impervious Runoff Depth>0.95"

Flow Length=75' Slope=0.0200 '/' Tc=7.7 min CN=73 Runoff=0.67 cfs 0.050 af

Pond SP-1: (new Pond)

Inflow=0.67 cfs 0.050 af

Primary=0.67 cfs 0.050 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.050 af Average Runoff Depth = 0.95"
96.85% Pervious = 0.606 ac 3.15% Impervious = 0.020 ac

PRE

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Type III 24-hr 2-YR Rainfall=3.30"

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Page 4

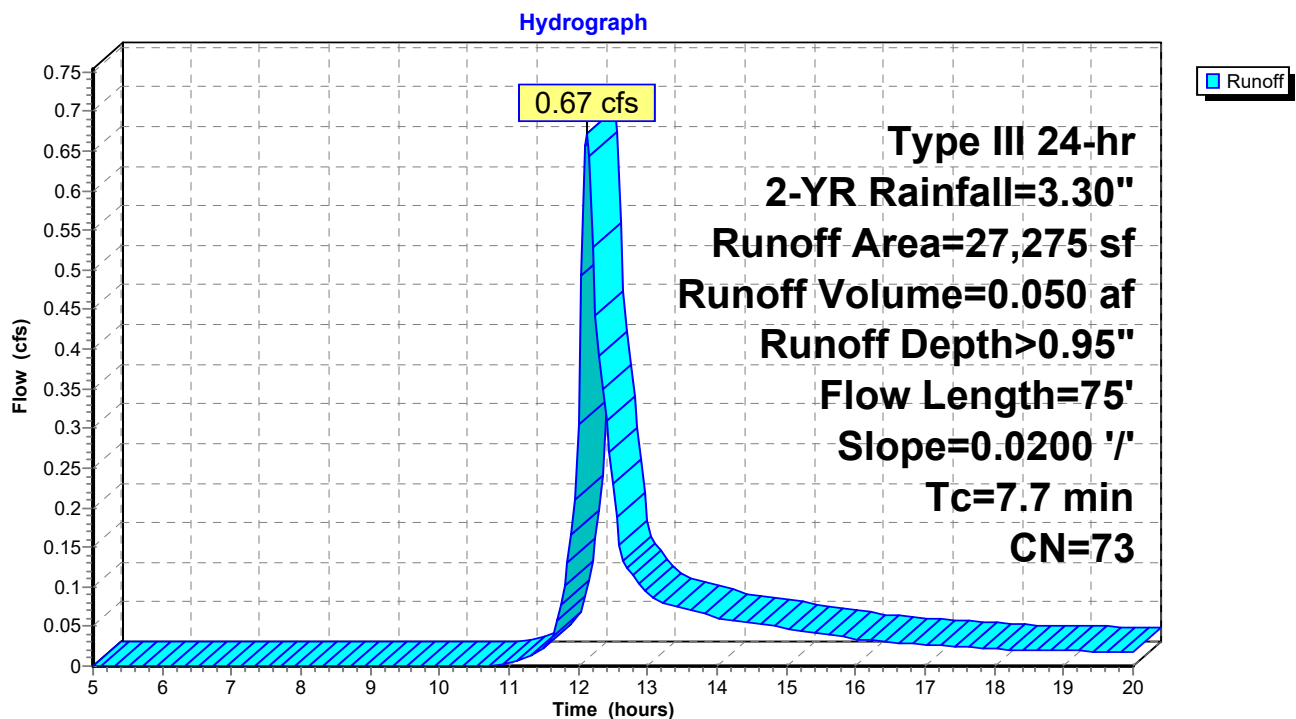
Summary for Subcatchment 1S: (new Subcat)

Runoff = 0.67 cfs @ 12.12 hrs, Volume= 0.050 af, Depth> 0.95"
 Routed to Pond SP-1 : (new Pond)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
10,998	70	Woods, Good, HSG C
15,419	74	>75% Grass cover, Good, HSG C
* 858	98	EXISTING IMP
27,275	73	Weighted Average
26,417		96.85% Pervious Area
858		3.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	75	0.0200	0.16		Sheet Flow, A-B
Grass: Short n= 0.150 P2= 3.30"					

Subcatchment 1S: (new Subcat)

PRE

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Type III 24-hr 2-YR Rainfall=3.30"

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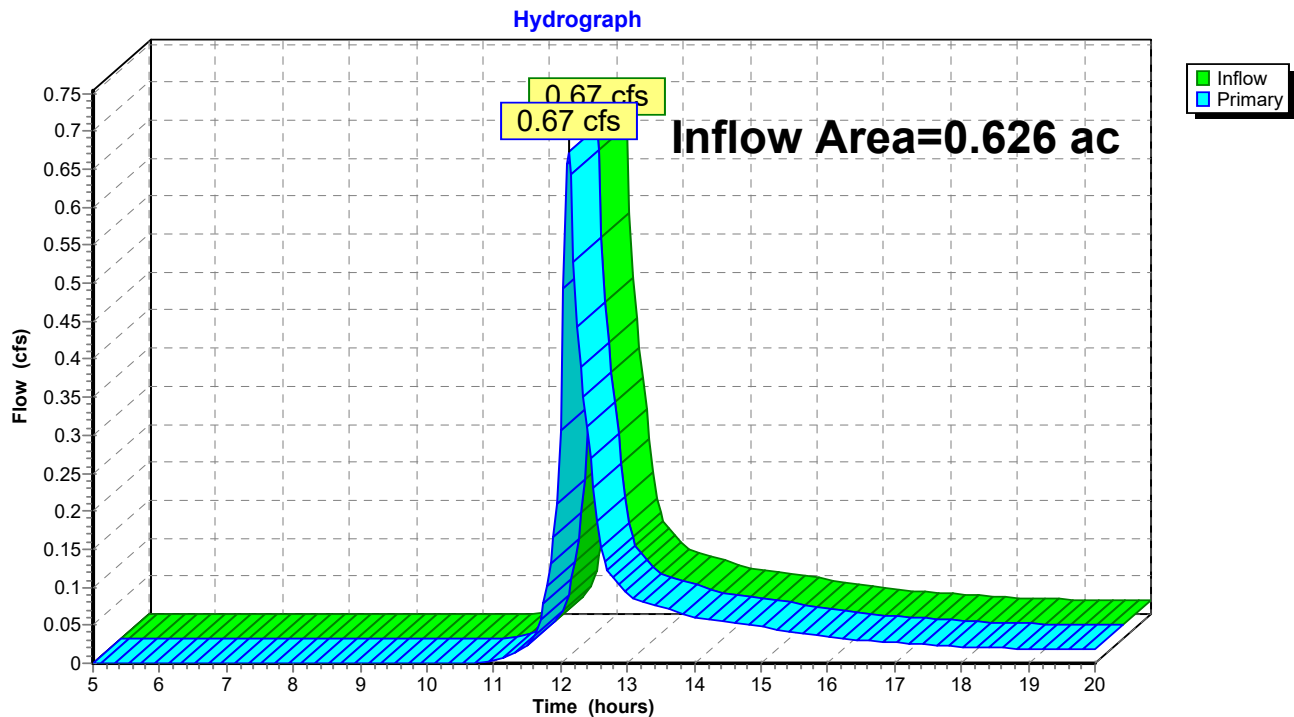
Page 5

Summary for Pond SP-1: (new Pond)

Inflow Area = 0.626 ac, 3.15% Impervious, Inflow Depth > 0.95" for 2-YR event
Inflow = 0.67 cfs @ 12.12 hrs, Volume= 0.050 af
Primary = 0.67 cfs @ 12.12 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1P

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond SP-1: (new Pond)



PRE*Type III 24-hr 10-YR Rainfall=4.90"*

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Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=27,275 sf 3.15% Impervious Runoff Depth>2.03"

Flow Length=75' Slope=0.0200 '/' Tc=7.7 min CN=73 Runoff=1.49 cfs 0.106 af

Pond SP-1: (new Pond)

Inflow=1.49 cfs 0.106 af

Primary=1.49 cfs 0.106 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.106 af Average Runoff Depth = 2.03"
96.85% Pervious = 0.606 ac 3.15% Impervious = 0.020 ac

PRE*Type III 24-hr 25-YR Rainfall=6.20"*

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: (new Subcat)

Runoff Area=27,275 sf 3.15% Impervious Runoff Depth>3.03"

Flow Length=75' Slope=0.0200 '/' Tc=7.7 min CN=73 Runoff=2.22 cfs 0.158 af

Pond SP-1: (new Pond)

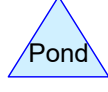
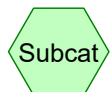
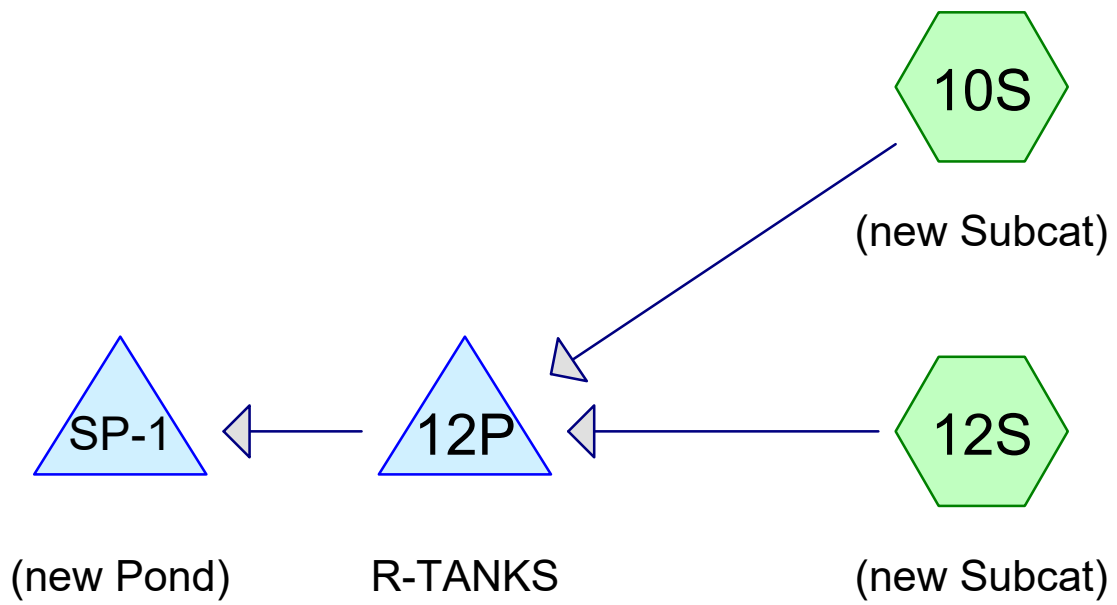
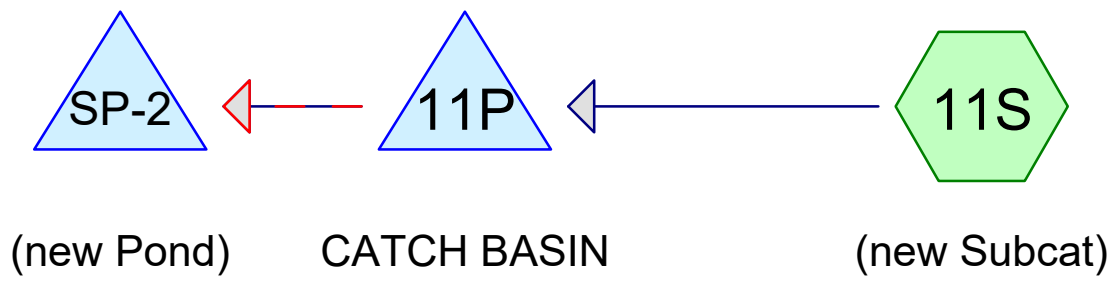
Inflow=2.22 cfs 0.158 af

Primary=2.22 cfs 0.158 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.158 af Average Runoff Depth = 3.03"
96.85% Pervious = 0.606 ac 3.15% Impervious = 0.020 ac

APPENDIX 8

POST-DEVELOPMENT HYDROCAD MODEL



Routing Diagram for POST
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POST

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.271	74	>75% Grass cover, Good, HSG C (10S, 11S, 12S)
0.071	98	LOT IMP (11S, 12S)
0.284	98	SITE IMP (10S)
0.626	88	TOTAL AREA

POST

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Type III 24-hr 2-YR Rainfall=3.30"

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Page 3

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new Subcat) Runoff Area=15,797 sf 78.26% Impervious Runoff Depth>2.40"
Tc=5.0 min CN=93 Runoff=1.07 cfs 0.073 af

Subcatchment 11S: (new Subcat) Runoff Area=1,604 sf 36.78% Impervious Runoff Depth>1.57"
Flow Length=61' Slope=0.0100 '/' Tc=6.7 min CN=83 Runoff=0.07 cfs 0.005 af

Subcatchment 12S: (new Subcat) Runoff Area=9,878 sf 25.32% Impervious Runoff Depth>1.36"
Flow Length=150' Tc=10.7 min CN=80 Runoff=0.33 cfs 0.026 af

Pond 11P: CATCH BASIN Peak Elev=136.52' Storage=0 cf Inflow=0.07 cfs 0.005 af
Primary=0.07 cfs 0.005 af Secondary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.005 af

Pond 12P: R-TANKS Peak Elev=133.25' Storage=0.013 af Inflow=1.33 cfs 0.098 af
Outflow=0.61 cfs 0.098 af

Pond SP-1: (new Pond) Inflow=0.61 cfs 0.098 af
Primary=0.61 cfs 0.098 af

Pond SP-2: (new Pond) Inflow=0.07 cfs 0.005 af
Primary=0.07 cfs 0.005 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.103 af Average Runoff Depth = 1.98"
43.35% Pervious = 0.271 ac 56.65% Impervious = 0.355 ac

POST

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Type III 24-hr 2-YR Rainfall=3.30"

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Page 4

Summary for Subcatchment 10S: (new Subcat)

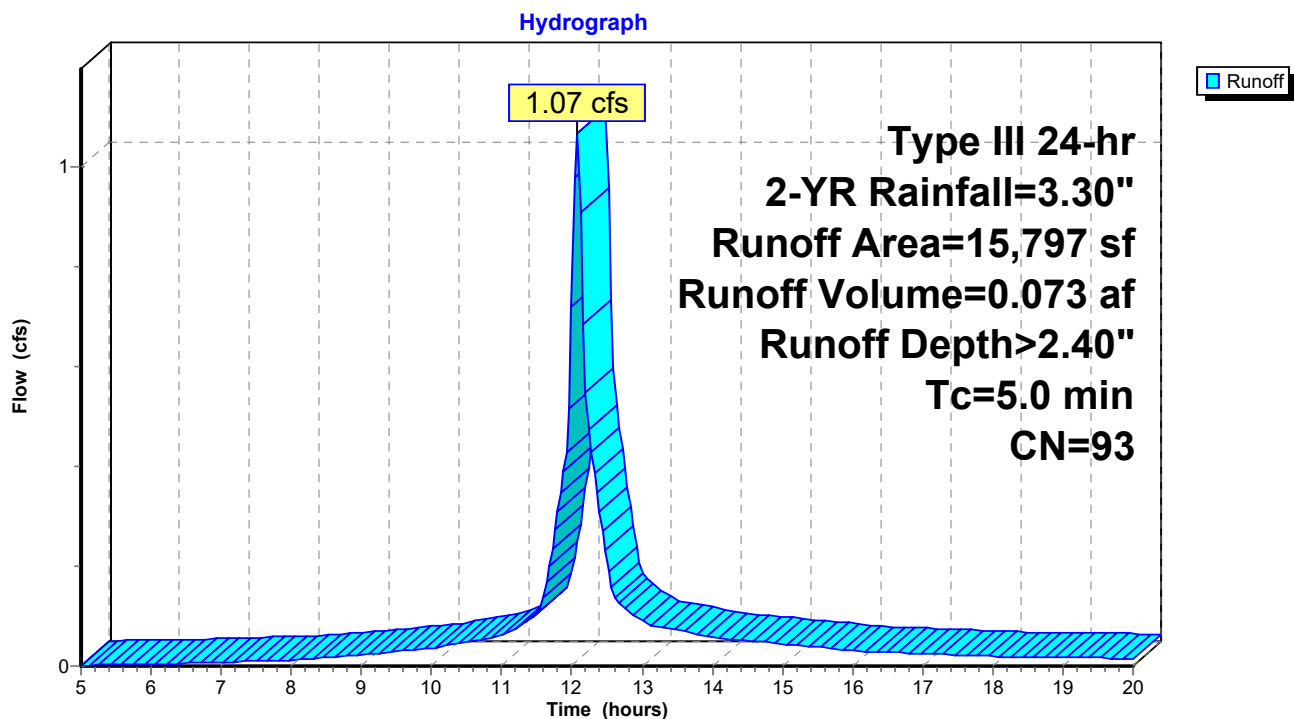
Runoff = 1.07 cfs @ 12.07 hrs, Volume= 0.073 af, Depth> 2.40"
Routed to Pond 12P : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	12,363	98	SITE IMP
	3,434	74	>75% Grass cover, Good, HSG C
	15,797	93	Weighted Average
	3,434		21.74% Pervious Area
	12,363		78.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, MIN

Subcatchment 10S: (new Subcat)



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Type III 24-hr 2-YR Rainfall=3.30"

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Page 5

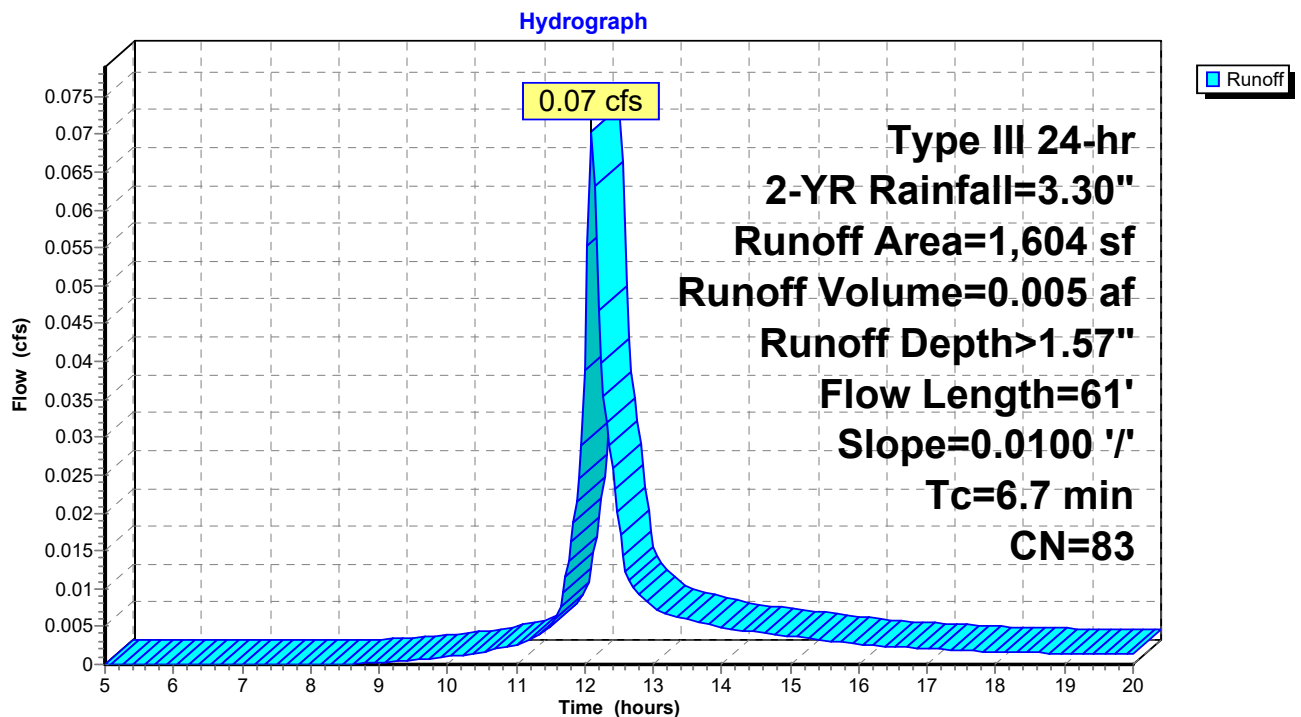
Summary for Subcatchment 11S: (new Subcat)

Runoff = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af, Depth> 1.57"
 Routed to Pond 11P : CATCH BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

Area (sf)	CN	Description
* 590	98	LOT IMP
1,014	74	>75% Grass cover, Good, HSG C
1,604	83	Weighted Average
1,014		63.22% Pervious Area
590		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	43	0.0100	0.11		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"
0.2	18	0.0100	1.50		Shallow Concentrated Flow, B-C Grassed Waterway Kv= 15.0 fps
6.7	61	Total			

Subcatchment 11S: (new Subcat)

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Type III 24-hr 2-YR Rainfall=3.30"

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Page 6

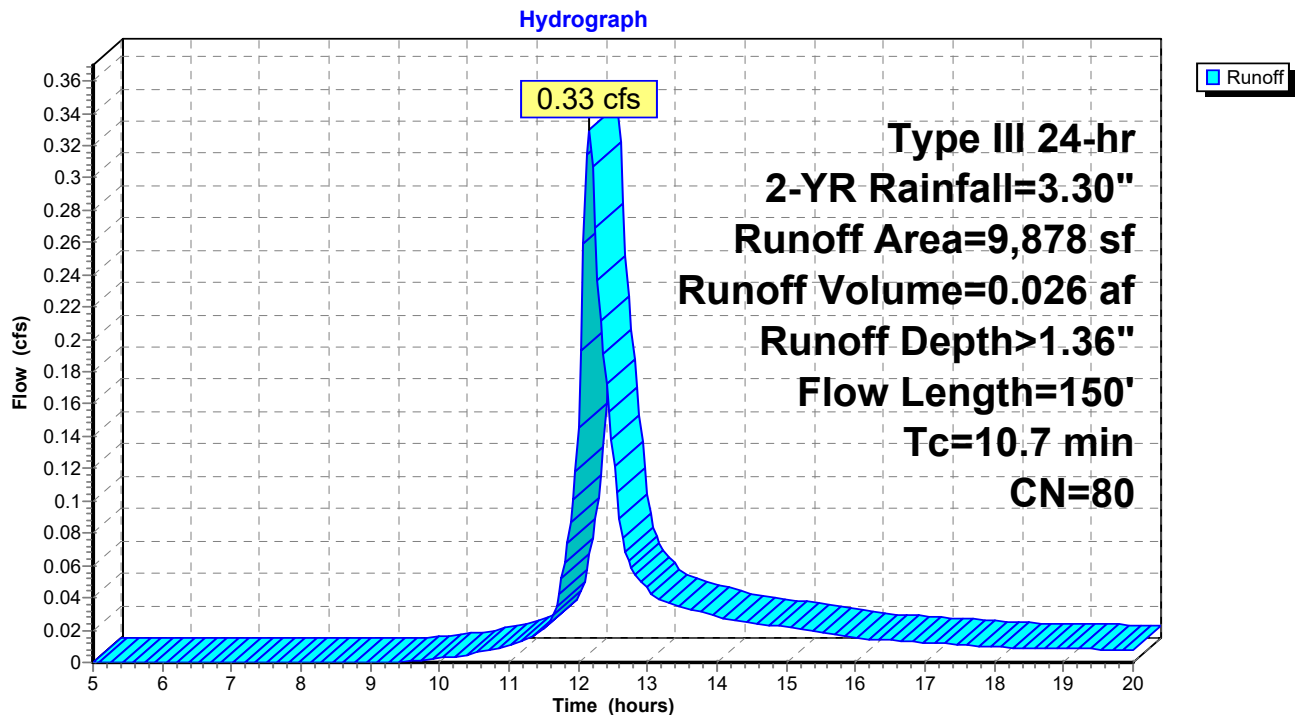
Summary for Subcatchment 12S: (new Subcat)

Runoff = 0.33 cfs @ 12.16 hrs, Volume= 0.026 af, Depth> 1.36"
 Routed to Pond 12P : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
 Type III 24-hr 2-YR Rainfall=3.30"

	Area (sf)	CN	Description
*	2,501	98	LOT IMP
	7,377	74	>75% Grass cover, Good, HSG C
	9,878	80	Weighted Average
	7,377		74.68% Pervious Area
	2,501		25.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	75	0.0100	0.12		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.30"
0.6	75	0.0200	2.12		Shallow Concentrated Flow, B-C Grassed Waterway Kv= 15.0 fps
10.7	150	Total			

Subcatchment 12S: (new Subcat)

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Type III 24-hr 2-YR Rainfall=3.30"

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Page 7

Summary for Pond 11P: CATCH BASIN

Inflow Area = 0.037 ac, 36.78% Impervious, Inflow Depth > 1.57" for 2-YR event
 Inflow = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af
 Outflow = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af, Atten= 1%, Lag= 0.0 min
 Primary = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af
 Routed to Pond SP-2 : (new Pond)
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Routed to Pond SP-2 : (new Pond)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
 Peak Elev= 136.52' @ 12.10 hrs Surf.Area= 26 sf Storage= 0 cf

Plug-Flow detention time= 0.1 min calculated for 0.005 af (100% of inflow)
 Center-of-Mass det. time= 0.1 min (795.5 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	136.50'	141 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
136.50	25	0	0
137.00	46	18	18
138.00	200	123	141

Device	Routing	Invert	Outlet Devices
#1	Device 2	136.50'	2.0" x 2.0" Horiz. Orifice/Grate X 7.00 columns X 7 rows C= 0.600 in 24.0" x 24.0" Grate (34% open area) Limited to weir flow at low heads
#2	Primary	132.50'	12.0" Round Culvert L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 132.50' / 131.80' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Secondary	137.25'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.07 cfs @ 12.10 hrs HW=136.52' (Free Discharge)

↑ **2=Culvert** (Passes 0.07 cfs of 5.60 cfs potential flow)
 ↑ **1=Orifice/Grate** (Weir Controls 0.07 cfs @ 0.45 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=136.50' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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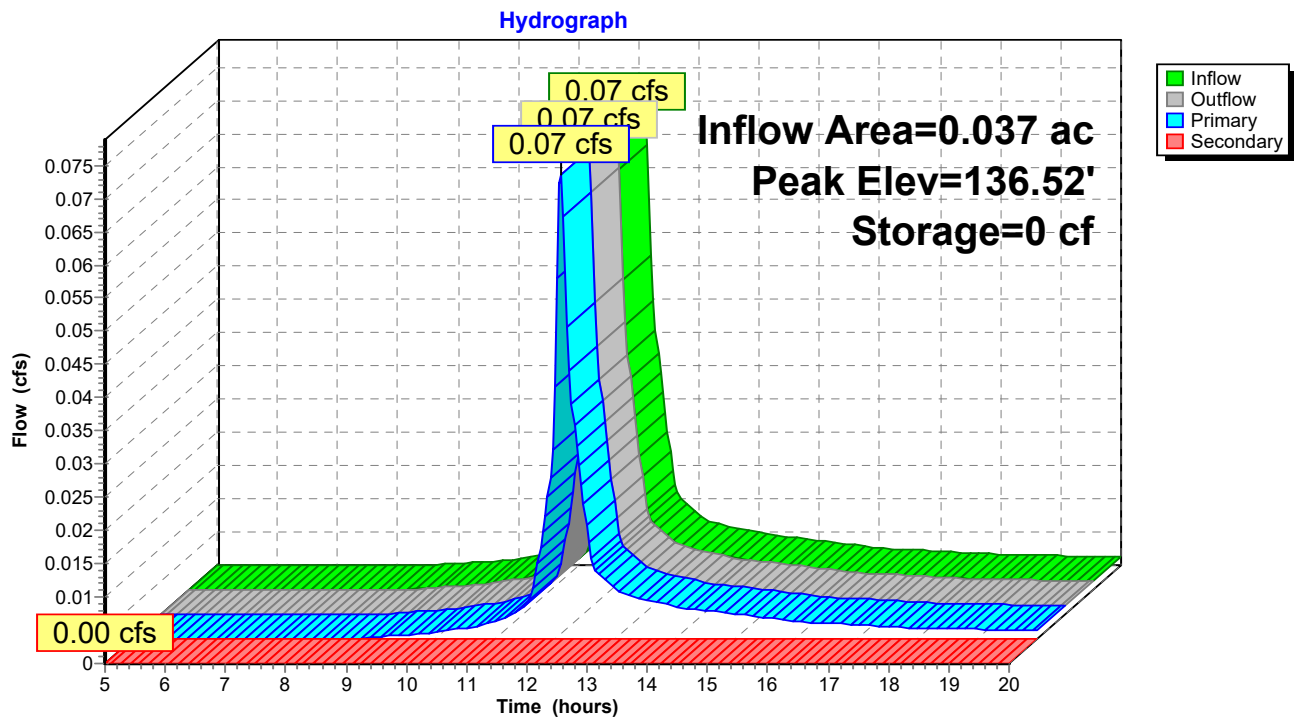
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Type III 24-hr 2-YR Rainfall=3.30"

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Page 8

Pond 11P: CATCH BASIN



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Page 9

Summary for Pond 12P: R-TANKS

Inflow Area = 0.589 ac, 57.89% Impervious, Inflow Depth > 2.00" for 2-YR event
 Inflow = 1.33 cfs @ 12.08 hrs, Volume= 0.098 af
 Outflow = 0.61 cfs @ 12.32 hrs, Volume= 0.098 af, Atten= 54%, Lag= 13.9 min
 Primary = 0.61 cfs @ 12.32 hrs, Volume= 0.098 af
 Routed to Pond SP-1 : (new Pond)

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
 Peak Elev= 133.25' @ 12.32 hrs Surf.Area= 0.015 ac Storage= 0.013 af

Plug-Flow detention time= 5.1 min calculated for 0.098 af (100% of inflow)
 Center-of-Mass det. time= 5.0 min (777.6 - 772.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	132.00'	0.013 af	15.81'W x 41.53'L x 4.07'H Field A 0.061 af Overall - 0.029 af Embedded = 0.033 af x 40.0% Voids
#2A	132.25'	0.027 af	ACF R-Tank HD 2 x 144 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 144 Chambers in 9 Rows
		0.040 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	130.82'	12.0" Round Culvert L= 144.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 130.82' / 129.94' S= 0.0061 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Device 1	131.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	134.64'	6.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#4	Device 1	133.25'	6.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.61 cfs @ 12.32 hrs HW=133.25' (Free Discharge)

- 1=Culvert (Passes 0.61 cfs of 2.22 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.61 cfs @ 6.94 fps)
- 3=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)

POST

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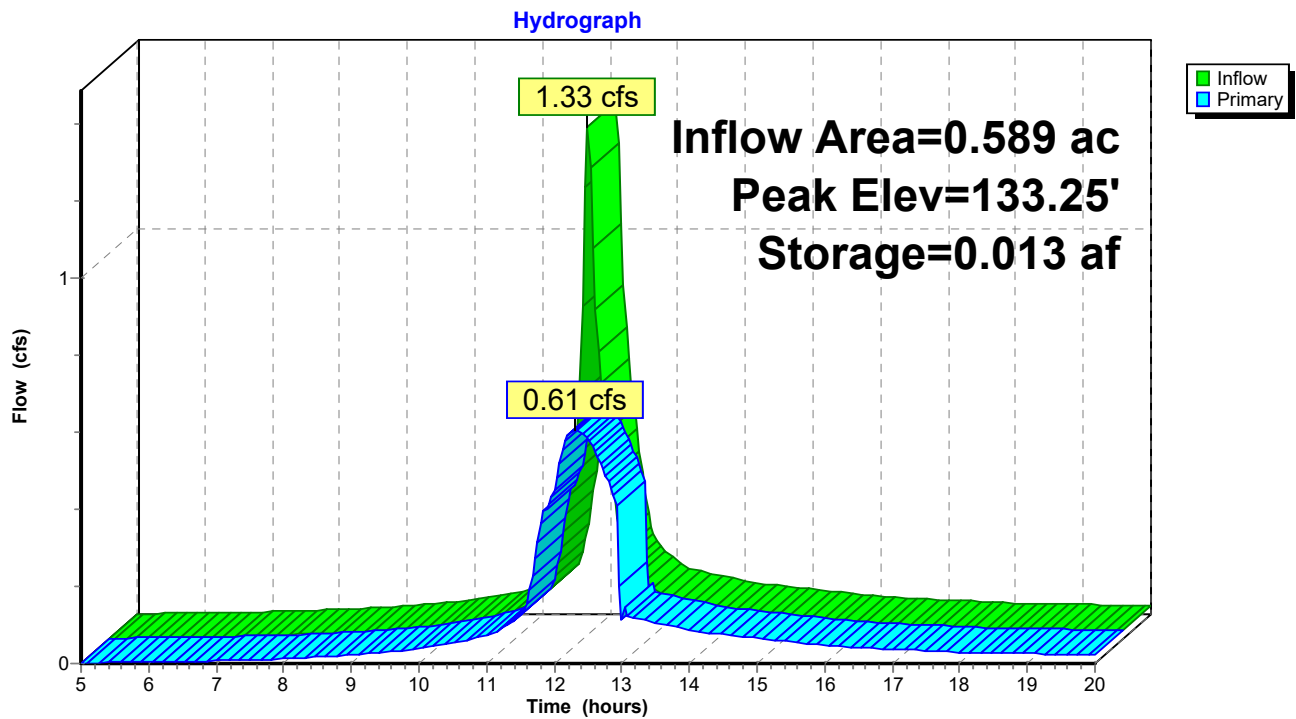
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Page 10

Pond 12P: R-TANKS



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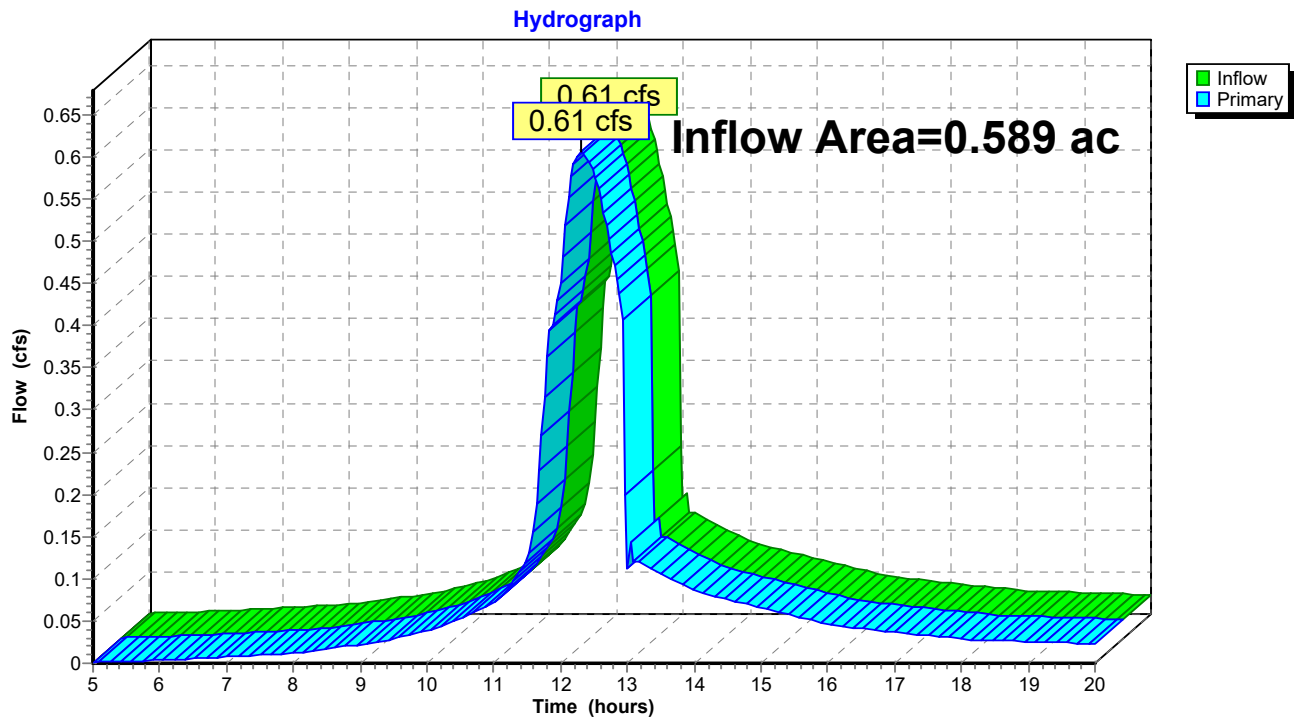
Page 11

Summary for Pond SP-1: (new Pond)

Inflow Area = 0.589 ac, 57.89% Impervious, Inflow Depth > 2.00" for 2-YR event
Inflow = 0.61 cfs @ 12.32 hrs, Volume= 0.098 af
Primary = 0.61 cfs @ 12.32 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1P

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Pond SP-1: (new Pond)



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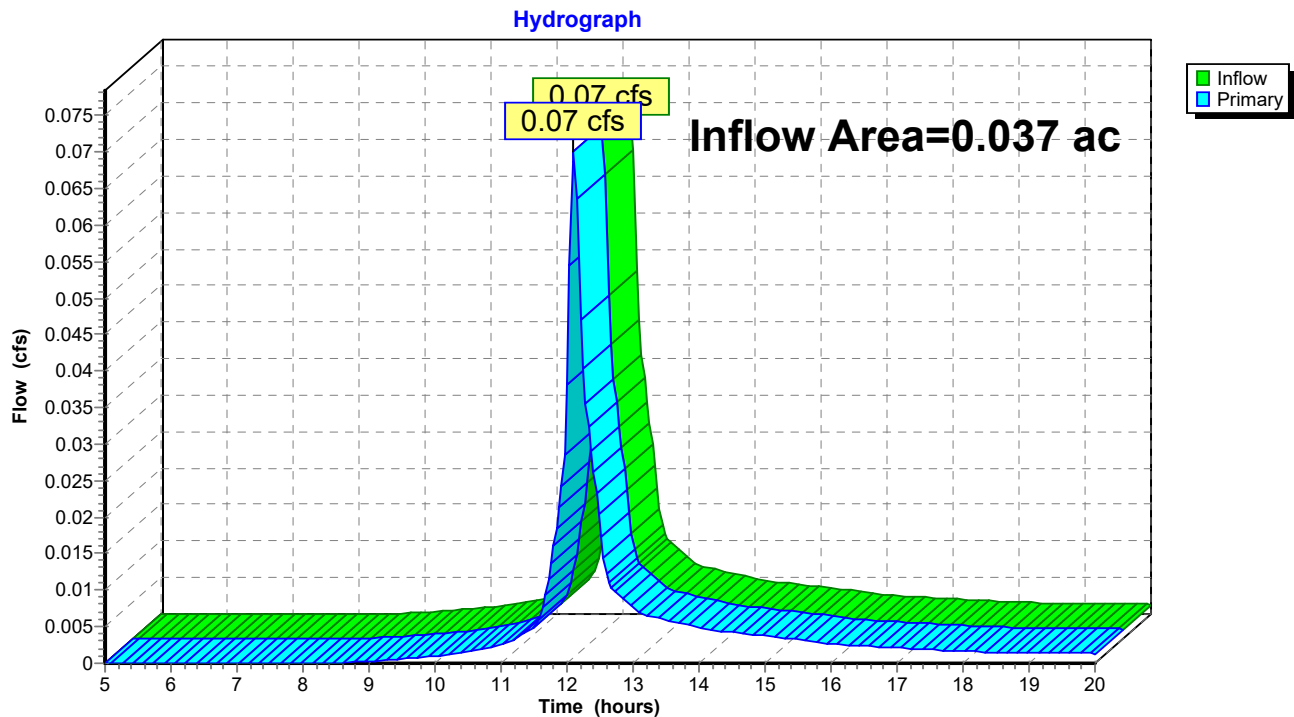
Page 12

Summary for Pond SP-2: (new Pond)

Inflow Area = 0.037 ac, 36.78% Impervious, Inflow Depth > 1.57" for 2-YR event
Inflow = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af
Primary = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1P

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Pond SP-2: (new Pond)



POST*Type III 24-hr 10-YR Rainfall=4.90"*

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Page 1

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new Subcat) Runoff Area=15,797 sf 78.26% Impervious Runoff Depth>3.87"
Tc=5.0 min CN=93 Runoff=1.68 cfs 0.117 af

Subcatchment 11S: (new Subcat) Runoff Area=1,604 sf 36.78% Impervious Runoff Depth>2.89"
Flow Length=61' Slope=0.0100 '/' Tc=6.7 min CN=83 Runoff=0.13 cfs 0.009 af

Subcatchment 12S: (new Subcat) Runoff Area=9,878 sf 25.32% Impervious Runoff Depth>2.62"
Flow Length=150' Tc=10.7 min CN=80 Runoff=0.63 cfs 0.049 af

Pond 11P: CATCH BASIN Peak Elev=136.53' Storage=1 cf Inflow=0.13 cfs 0.009 af
Primary=0.13 cfs 0.009 af Secondary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.009 af

Pond 12P: R-TANKS Peak Elev=134.00' Storage=0.022 af Inflow=2.19 cfs 0.166 af
Outflow=1.47 cfs 0.166 af

Pond SP-1: (new Pond) Inflow=1.47 cfs 0.166 af
Primary=1.47 cfs 0.166 af

Pond SP-2: (new Pond) Inflow=0.13 cfs 0.009 af
Primary=0.13 cfs 0.009 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.175 af Average Runoff Depth = 3.36"
43.35% Pervious = 0.271 ac 56.65% Impervious = 0.355 ac

POST*Type III 24-hr 25-YR Rainfall=6.20"*

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Page 2

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new Subcat) Runoff Area=15,797 sf 78.26% Impervious Runoff Depth>5.07"
Tc=5.0 min CN=93 Runoff=2.16 cfs 0.153 af

Subcatchment 11S: (new Subcat) Runoff Area=1,604 sf 36.78% Impervious Runoff Depth>4.02"
Flow Length=61' Slope=0.0100 '/' Tc=6.7 min CN=83 Runoff=0.18 cfs 0.012 af

Subcatchment 12S: (new Subcat) Runoff Area=9,878 sf 25.32% Impervious Runoff Depth>3.71"
Flow Length=150' Tc=10.7 min CN=80 Runoff=0.89 cfs 0.070 af

Pond 11P: CATCH BASIN Peak Elev=136.54' Storage=1 cf Inflow=0.18 cfs 0.012 af
Primary=0.18 cfs 0.012 af Secondary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.012 af

Pond 12P: R-TANKS Peak Elev=134.64' Storage=0.029 af Inflow=2.89 cfs 0.223 af
Outflow=1.96 cfs 0.223 af

Pond SP-1: (new Pond) Inflow=1.96 cfs 0.223 af
Primary=1.96 cfs 0.223 af

Pond SP-2: (new Pond) Inflow=0.18 cfs 0.012 af
Primary=0.18 cfs 0.012 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.236 af Average Runoff Depth = 4.52"
43.35% Pervious = 0.271 ac 56.65% Impervious = 0.355 ac

POST*Type III 24-hr 100-YR Rainfall=8.70"*

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Page 3

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new Subcat) Runoff Area=15,797 sf 78.26% Impervious Runoff Depth>7.38"
Tc=5.0 min CN=93 Runoff=3.09 cfs 0.223 af

Subcatchment 11S: (new Subcat) Runoff Area=1,604 sf 36.78% Impervious Runoff Depth>6.28"
Flow Length=61' Slope=0.0100 '/' Tc=6.7 min CN=83 Runoff=0.27 cfs 0.019 af

Subcatchment 12S: (new Subcat) Runoff Area=9,878 sf 25.32% Impervious Runoff Depth>5.92"
Flow Length=150' Tc=10.7 min CN=80 Runoff=1.39 cfs 0.112 af

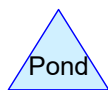
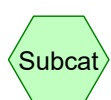
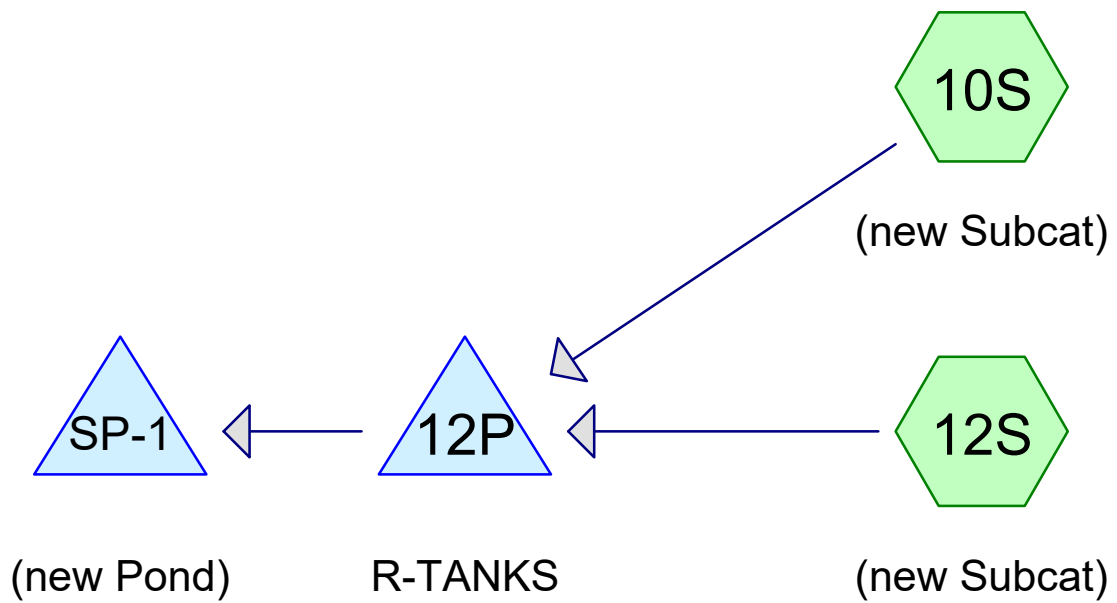
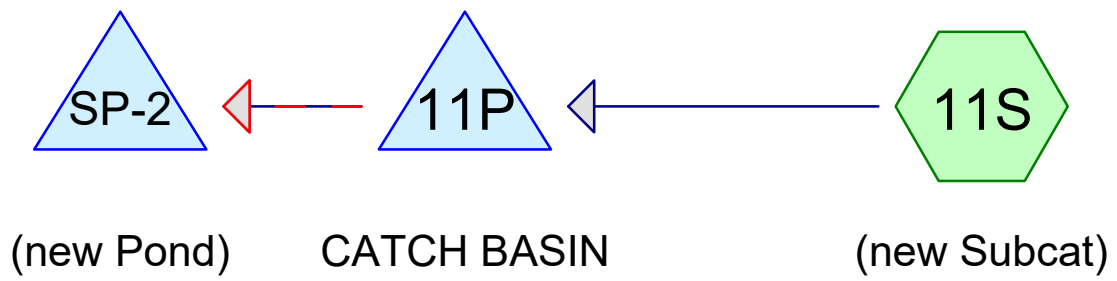
Pond 11P: CATCH BASIN Peak Elev=136.55' Storage=1 cf Inflow=0.27 cfs 0.019 af
Primary=0.27 cfs 0.019 af Secondary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.019 af

Pond 12P: R-TANKS Peak Elev=135.83' Storage=0.039 af Inflow=4.25 cfs 0.335 af
Outflow=3.23 cfs 0.335 af

Pond SP-1: (new Pond) Inflow=3.23 cfs 0.335 af
Primary=3.23 cfs 0.335 af

Pond SP-2: (new Pond) Inflow=0.27 cfs 0.019 af
Primary=0.27 cfs 0.019 af

Total Runoff Area = 0.626 ac Runoff Volume = 0.354 af Average Runoff Depth = 6.78"
43.35% Pervious = 0.271 ac 56.65% Impervious = 0.355 ac



Routing Diagram for POST - RATIONAL
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POST - RATIONAL

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Page 2

Area Listing (all nodes)

Area (acres)	C	Description (subcatchment-numbers)
0.271	0.15	>75% Grass cover, Good, HSG C (10S, 11S, 12S)
0.071	0.95	LOT IMP (11S, 12S)
0.284	0.95	SITE IMP (10S)
0.626	0.60	TOTAL AREA

POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 3

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: (new Subcat)Runoff Area=15,797 sf 78.26% Impervious Runoff Depth=1.44"
Tc=5.0 min C=0.78 Runoff=0.53 cfs 0.044 af**Subcatchment 11S: (new Subcat)**Runoff Area=1,604 sf 36.78% Impervious Runoff Depth=0.81"
Flow Length=61' Slope=0.0100 '/' Tc=6.7 min C=0.44 Runoff=0.03 cfs 0.002 af**Subcatchment 12S: (new Subcat)**Runoff Area=9,878 sf 25.32% Impervious Runoff Depth=0.65"
Flow Length=150' Tc=10.7 min C=0.35 Runoff=0.15 cfs 0.012 af**Pond 11P: CATCH BASIN**Peak Elev=136.51' Storage=0 cf Inflow=0.03 cfs 0.002 af
Primary=0.03 cfs 0.002 af Secondary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.002 af**Pond 12P: R-TANKS**Peak Elev=133.15' Storage=0.012 af Inflow=0.68 cfs 0.056 af
Outflow=0.59 cfs 0.056 af**Pond SP-1: (new Pond)**Inflow=0.59 cfs 0.056 af
Primary=0.59 cfs 0.056 af**Pond SP-2: (new Pond)**Inflow=0.03 cfs 0.002 af
Primary=0.03 cfs 0.002 af**Total Runoff Area = 0.626 ac Runoff Volume = 0.058 af Average Runoff Depth = 1.12"**
43.35% Pervious = 0.271 ac 56.65% Impervious = 0.355 ac

POST - RATIONAL

kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 4

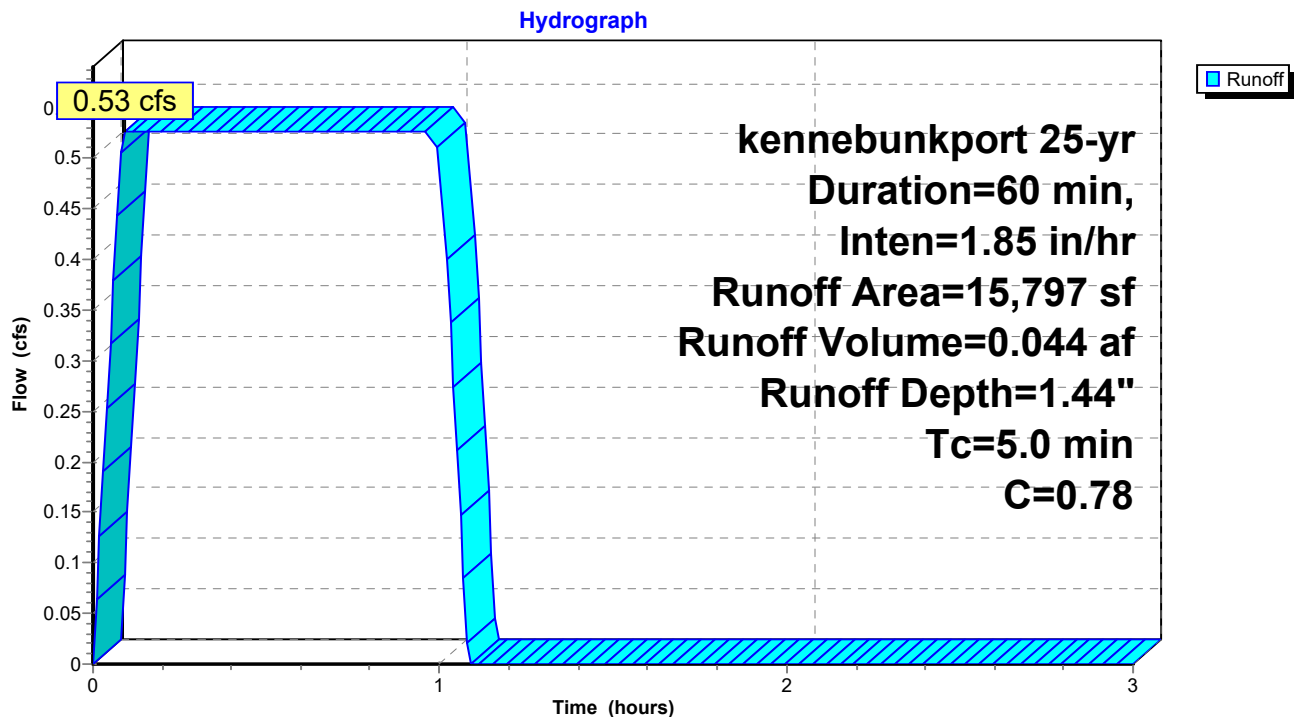
Summary for Subcatchment 10S: (new Subcat)

Runoff = 0.53 cfs @ 0.09 hrs, Volume= 0.044 af, Depth= 1.44"
 Routed to Pond 12P : R-TANKS

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

Area (sf)	C	Description
12,363	0.95	SITE IMP
3,434	0.15	>75% Grass cover, Good, HSG C
15,797	0.78	Weighted Average
3,434		21.74% Pervious Area
12,363		78.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, MIN

Subcatchment 10S: (new Subcat)

POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Hydrograph for Subcatchment 10S: (new Subcat)

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.06	0.15	2.12	0.00
0.02	0.13	1.08	0.02	2.14	0.00
0.04	0.25	1.10	0.00	2.16	0.00
0.06	0.38	1.12	0.00	2.18	0.00
0.08	0.51	1.14	0.00	2.20	0.00
0.10	0.53	1.16	0.00	2.22	0.00
0.12	0.53	1.18	0.00	2.24	0.00
0.14	0.53	1.20	0.00	2.26	0.00
0.16	0.53	1.22	0.00	2.28	0.00
0.18	0.53	1.24	0.00	2.30	0.00
0.20	0.53	1.26	0.00	2.32	0.00
0.22	0.53	1.28	0.00	2.34	0.00
0.24	0.53	1.30	0.00	2.36	0.00
0.26	0.53	1.32	0.00	2.38	0.00
0.28	0.53	1.34	0.00	2.40	0.00
0.30	0.53	1.36	0.00	2.42	0.00
0.32	0.53	1.38	0.00	2.44	0.00
0.34	0.53	1.40	0.00	2.46	0.00
0.36	0.53	1.42	0.00	2.48	0.00
0.38	0.53	1.44	0.00	2.50	0.00
0.40	0.53	1.46	0.00	2.52	0.00
0.42	0.53	1.48	0.00	2.54	0.00
0.44	0.53	1.50	0.00	2.56	0.00
0.46	0.53	1.52	0.00	2.58	0.00
0.48	0.53	1.54	0.00	2.60	0.00
0.50	0.53	1.56	0.00	2.62	0.00
0.52	0.53	1.58	0.00	2.64	0.00
0.54	0.53	1.60	0.00	2.66	0.00
0.56	0.53	1.62	0.00	2.68	0.00
0.58	0.53	1.64	0.00	2.70	0.00
0.60	0.53	1.66	0.00	2.72	0.00
0.62	0.53	1.68	0.00	2.74	0.00
0.64	0.53	1.70	0.00	2.76	0.00
0.66	0.53	1.72	0.00	2.78	0.00
0.68	0.53	1.74	0.00	2.80	0.00
0.70	0.53	1.76	0.00	2.82	0.00
0.72	0.53	1.78	0.00	2.84	0.00
0.74	0.53	1.80	0.00	2.86	0.00
0.76	0.53	1.82	0.00	2.88	0.00
0.78	0.53	1.84	0.00	2.90	0.00
0.80	0.53	1.86	0.00	2.92	0.00
0.82	0.53	1.88	0.00	2.94	0.00
0.84	0.53	1.90	0.00	2.96	0.00
0.86	0.53	1.92	0.00	2.98	0.00
0.88	0.53	1.94	0.00	3.00	0.00
0.90	0.53	1.96	0.00		
0.92	0.53	1.98	0.00		
0.94	0.53	2.00	0.00		
0.96	0.53	2.02	0.00		
0.98	0.53	2.04	0.00		
1.00	0.53	2.06	0.00		
1.02	0.40	2.08	0.00		
1.04	0.27	2.10	0.00		

POST - RATIONAL

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kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 6

Summary for Subcatchment 11S: (new Subcat)

Runoff = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af, Depth= 0.81"
 Routed to Pond 11P : CATCH BASIN

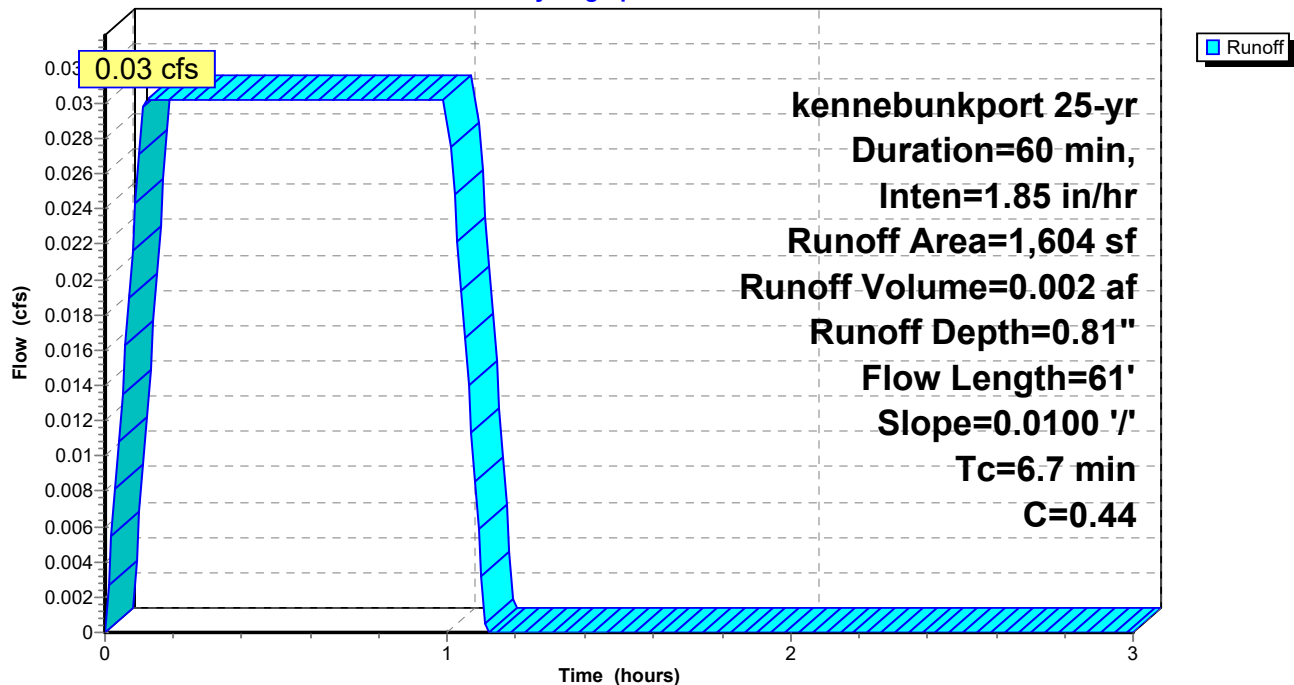
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

Area (sf)	C	Description
590	0.95	LOT IMP
1,014	0.15	>75% Grass cover, Good, HSG C
1,604	0.44	Weighted Average
1,014		63.22% Pervious Area
590		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	43	0.0100	0.11		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.2	18	0.0100	1.50		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
6.7	61	Total			

Subcatchment 11S: (new Subcat)

Hydrograph



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 7

Hydrograph for Subcatchment 11S: (new Subcat)

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.06	0.01	2.12	0.00
0.02	0.01	1.08	0.01	2.14	0.00
0.04	0.01	1.10	0.00	2.16	0.00
0.06	0.02	1.12	0.00	2.18	0.00
0.08	0.02	1.14	0.00	2.20	0.00
0.10	0.03	1.16	0.00	2.22	0.00
0.12	0.03	1.18	0.00	2.24	0.00
0.14	0.03	1.20	0.00	2.26	0.00
0.16	0.03	1.22	0.00	2.28	0.00
0.18	0.03	1.24	0.00	2.30	0.00
0.20	0.03	1.26	0.00	2.32	0.00
0.22	0.03	1.28	0.00	2.34	0.00
0.24	0.03	1.30	0.00	2.36	0.00
0.26	0.03	1.32	0.00	2.38	0.00
0.28	0.03	1.34	0.00	2.40	0.00
0.30	0.03	1.36	0.00	2.42	0.00
0.32	0.03	1.38	0.00	2.44	0.00
0.34	0.03	1.40	0.00	2.46	0.00
0.36	0.03	1.42	0.00	2.48	0.00
0.38	0.03	1.44	0.00	2.50	0.00
0.40	0.03	1.46	0.00	2.52	0.00
0.42	0.03	1.48	0.00	2.54	0.00
0.44	0.03	1.50	0.00	2.56	0.00
0.46	0.03	1.52	0.00	2.58	0.00
0.48	0.03	1.54	0.00	2.60	0.00
0.50	0.03	1.56	0.00	2.62	0.00
0.52	0.03	1.58	0.00	2.64	0.00
0.54	0.03	1.60	0.00	2.66	0.00
0.56	0.03	1.62	0.00	2.68	0.00
0.58	0.03	1.64	0.00	2.70	0.00
0.60	0.03	1.66	0.00	2.72	0.00
0.62	0.03	1.68	0.00	2.74	0.00
0.64	0.03	1.70	0.00	2.76	0.00
0.66	0.03	1.72	0.00	2.78	0.00
0.68	0.03	1.74	0.00	2.80	0.00
0.70	0.03	1.76	0.00	2.82	0.00
0.72	0.03	1.78	0.00	2.84	0.00
0.74	0.03	1.80	0.00	2.86	0.00
0.76	0.03	1.82	0.00	2.88	0.00
0.78	0.03	1.84	0.00	2.90	0.00
0.80	0.03	1.86	0.00	2.92	0.00
0.82	0.03	1.88	0.00	2.94	0.00
0.84	0.03	1.90	0.00	2.96	0.00
0.86	0.03	1.92	0.00	2.98	0.00
0.88	0.03	1.94	0.00	3.00	0.00
0.90	0.03	1.96	0.00		
0.92	0.03	1.98	0.00		
0.94	0.03	2.00	0.00		
0.96	0.03	2.02	0.00		
0.98	0.03	2.04	0.00		
1.00	0.03	2.06	0.00		
1.02	0.02	2.08	0.00		
1.04	0.02	2.10	0.00		

POST - RATIONAL

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kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 8

Summary for Subcatchment 12S: (new Subcat)

Runoff = 0.15 cfs @ 0.18 hrs, Volume= 0.012 af, Depth= 0.65"
 Routed to Pond 12P : R-TANKS

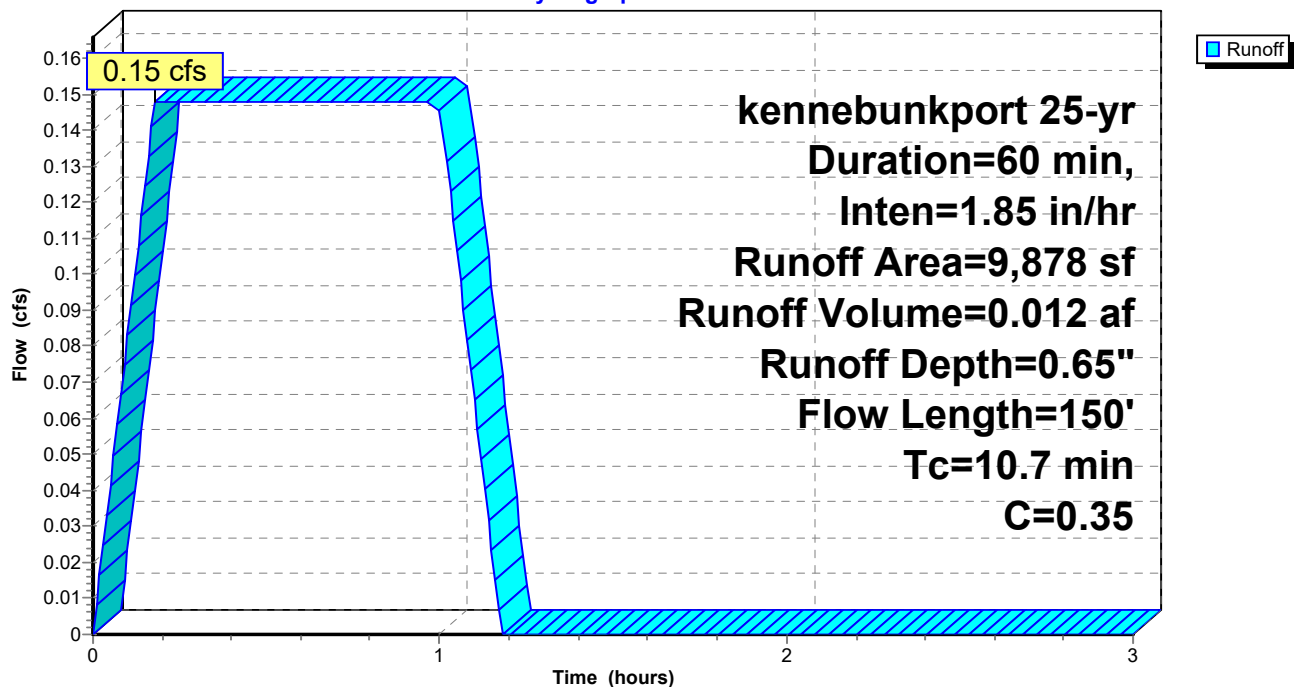
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

Area (sf)	C	Description
2,501	0.95	LOT IMP
7,377	0.15	>75% Grass cover, Good, HSG C
9,878	0.35	Weighted Average
7,377		74.68% Pervious Area
2,501		25.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	75	0.0100	0.12		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.30"
0.6	75	0.0200	2.12		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
10.7	150	Total			

Subcatchment 12S: (new Subcat)

Hydrograph



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 9

Hydrograph for Subcatchment 12S: (new Subcat)

Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)	Time (hours)	Runoff (cfs)
0.00	0.00	1.06	0.10	2.12	0.00
0.02	0.02	1.08	0.08	2.14	0.00
0.04	0.03	1.10	0.07	2.16	0.00
0.06	0.05	1.12	0.05	2.18	0.00
0.08	0.07	1.14	0.03	2.20	0.00
0.10	0.08	1.16	0.02	2.22	0.00
0.12	0.10	1.18	0.00	2.24	0.00
0.14	0.12	1.20	0.00	2.26	0.00
0.16	0.13	1.22	0.00	2.28	0.00
0.18	0.15	1.24	0.00	2.30	0.00
0.20	0.15	1.26	0.00	2.32	0.00
0.22	0.15	1.28	0.00	2.34	0.00
0.24	0.15	1.30	0.00	2.36	0.00
0.26	0.15	1.32	0.00	2.38	0.00
0.28	0.15	1.34	0.00	2.40	0.00
0.30	0.15	1.36	0.00	2.42	0.00
0.32	0.15	1.38	0.00	2.44	0.00
0.34	0.15	1.40	0.00	2.46	0.00
0.36	0.15	1.42	0.00	2.48	0.00
0.38	0.15	1.44	0.00	2.50	0.00
0.40	0.15	1.46	0.00	2.52	0.00
0.42	0.15	1.48	0.00	2.54	0.00
0.44	0.15	1.50	0.00	2.56	0.00
0.46	0.15	1.52	0.00	2.58	0.00
0.48	0.15	1.54	0.00	2.60	0.00
0.50	0.15	1.56	0.00	2.62	0.00
0.52	0.15	1.58	0.00	2.64	0.00
0.54	0.15	1.60	0.00	2.66	0.00
0.56	0.15	1.62	0.00	2.68	0.00
0.58	0.15	1.64	0.00	2.70	0.00
0.60	0.15	1.66	0.00	2.72	0.00
0.62	0.15	1.68	0.00	2.74	0.00
0.64	0.15	1.70	0.00	2.76	0.00
0.66	0.15	1.72	0.00	2.78	0.00
0.68	0.15	1.74	0.00	2.80	0.00
0.70	0.15	1.76	0.00	2.82	0.00
0.72	0.15	1.78	0.00	2.84	0.00
0.74	0.15	1.80	0.00	2.86	0.00
0.76	0.15	1.82	0.00	2.88	0.00
0.78	0.15	1.84	0.00	2.90	0.00
0.80	0.15	1.86	0.00	2.92	0.00
0.82	0.15	1.88	0.00	2.94	0.00
0.84	0.15	1.90	0.00	2.96	0.00
0.86	0.15	1.92	0.00	2.98	0.00
0.88	0.15	1.94	0.00	3.00	0.00
0.90	0.15	1.96	0.00		
0.92	0.15	1.98	0.00		
0.94	0.15	2.00	0.00		
0.96	0.15	2.02	0.00		
0.98	0.15	2.04	0.00		
1.00	0.15	2.06	0.00		
1.02	0.13	2.08	0.00		
1.04	0.11	2.10	0.00		

POST - RATIONAL

kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 10

Summary for Pond 11P: CATCH BASIN

Inflow Area = 0.037 ac, 36.78% Impervious, Inflow Depth = 0.81" for 25-yr event
 Inflow = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af
 Outflow = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af
 Routed to Pond SP-2 : (new Pond)
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond SP-2 : (new Pond)

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 136.51' @ 0.12 hrs Surf.Area= 25 sf Storage= 0 cf

Plug-Flow detention time= 0.1 min calculated for 0.002 af (100% of inflow)
 Center-of-Mass det. time= 0.1 min (33.5 - 33.4)

Volume	Invert	Avail.Storage	Storage Description
#1	136.50'	141 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
136.50	25	0	0
137.00	46	18	18
138.00	200	123	141

Device	Routing	Invert	Outlet Devices
#1	Device 2	136.50'	2.0" x 2.0" Horiz. Orifice/Grate X 7.00 columns X 7 rows C= 0.600 in 24.0" x 24.0" Grate (34% open area) Limited to weir flow at low heads
#2	Primary	132.50'	12.0" Round Culvert L= 70.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 132.50' / 131.80' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Secondary	137.25'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 0.12 hrs HW=136.51' (Free Discharge)

↑ **2=Culvert** (Passes 0.02 cfs of 5.59 cfs potential flow)
 ↑ **1=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=136.50' (Free Discharge)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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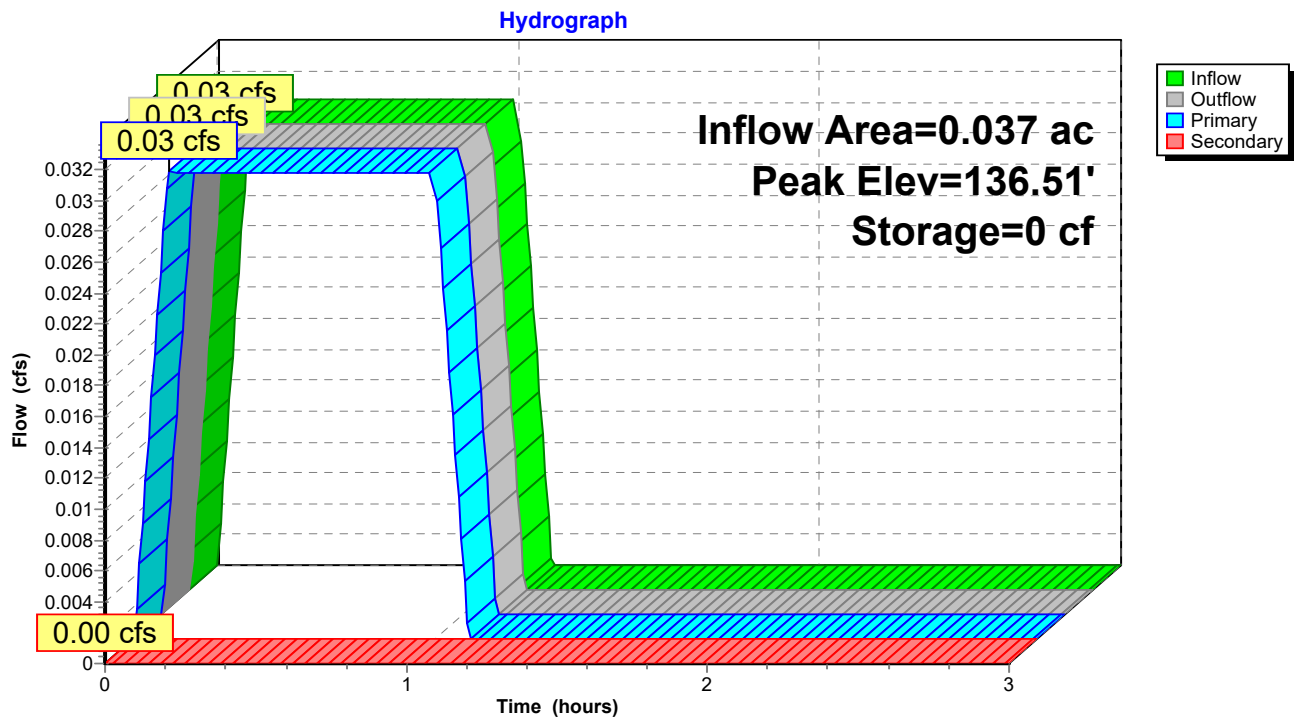
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Page 11

Pond 11P: CATCH BASIN



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 12

Hydrograph for Pond 11P: CATCH BASIN

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	136.50	0.00	0.00	0.00
0.10	0.03	0	136.51	0.03	0.03	0.00
0.20	0.03	0	136.51	0.03	0.03	0.00
0.30	0.03	0	136.51	0.03	0.03	0.00
0.40	0.03	0	136.51	0.03	0.03	0.00
0.50	0.03	0	136.51	0.03	0.03	0.00
0.60	0.03	0	136.51	0.03	0.03	0.00
0.70	0.03	0	136.51	0.03	0.03	0.00
0.80	0.03	0	136.51	0.03	0.03	0.00
0.90	0.03	0	136.51	0.03	0.03	0.00
1.00	0.03	0	136.51	0.03	0.03	0.00
1.10	0.00	0	136.50	0.00	0.00	0.00
1.20	0.00	0	136.50	0.00	0.00	0.00
1.30	0.00	0	136.50	0.00	0.00	0.00
1.40	0.00	0	136.50	0.00	0.00	0.00
1.50	0.00	0	136.50	0.00	0.00	0.00
1.60	0.00	0	136.50	0.00	0.00	0.00
1.70	0.00	0	136.50	0.00	0.00	0.00
1.80	0.00	0	136.50	0.00	0.00	0.00
1.90	0.00	0	136.50	0.00	0.00	0.00
2.00	0.00	0	136.50	0.00	0.00	0.00
2.10	0.00	0	136.50	0.00	0.00	0.00
2.20	0.00	0	136.50	0.00	0.00	0.00
2.30	0.00	0	136.50	0.00	0.00	0.00
2.40	0.00	0	136.50	0.00	0.00	0.00
2.50	0.00	0	136.50	0.00	0.00	0.00
2.60	0.00	0	136.50	0.00	0.00	0.00
2.70	0.00	0	136.50	0.00	0.00	0.00
2.80	0.00	0	136.50	0.00	0.00	0.00
2.90	0.00	0	136.50	0.00	0.00	0.00
3.00	0.00	0	136.50	0.00	0.00	0.00

POST - RATIONAL

kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 13

Summary for Pond 12P: R-TANKS

Inflow Area = 0.589 ac, 57.89% Impervious, Inflow Depth = 1.14" for 25-yr event
 Inflow = 0.68 cfs @ 0.18 hrs, Volume= 0.056 af
 Outflow = 0.59 cfs @ 1.01 hrs, Volume= 0.056 af, Atten= 12%, Lag= 49.9 min
 Primary = 0.59 cfs @ 1.01 hrs, Volume= 0.056 af
 Routed to Pond SP-1 : (new Pond)

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
 Peak Elev= 133.15' @ 1.01 hrs Surf.Area= 0.015 ac Storage= 0.012 af

Plug-Flow detention time= 9.3 min calculated for 0.056 af (100% of inflow)
 Center-of-Mass det. time= 9.3 min (42.4 - 33.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	132.00'	0.013 af	18.44'W x 34.50'L x 4.20'H Field A 0.061 af Overall - 0.030 af Embedded = 0.032 af x 40.0% Voids
#2A	132.25'	0.028 af	ACF R-Tank SD 4 x 143 Inside #1 Inside= 15.7"W x 35.4"H => 3.68 sf x 2.35'L = 8.6 cf Outside= 15.7"W x 35.4"H => 3.88 sf x 2.35'L = 9.1 cf 143 Chambers in 11 Rows
		0.041 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	130.82'	12.0" Round Culvert L= 144.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 130.82' / 129.94' S= 0.0061 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Device 1	131.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	135.00'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#4	Device 1	133.41'	5.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.59 cfs @ 1.01 hrs HW=133.15' (Free Discharge)

- 1=Culvert (Passes 0.59 cfs of 2.17 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.59 cfs @ 6.78 fps)
- 3=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)

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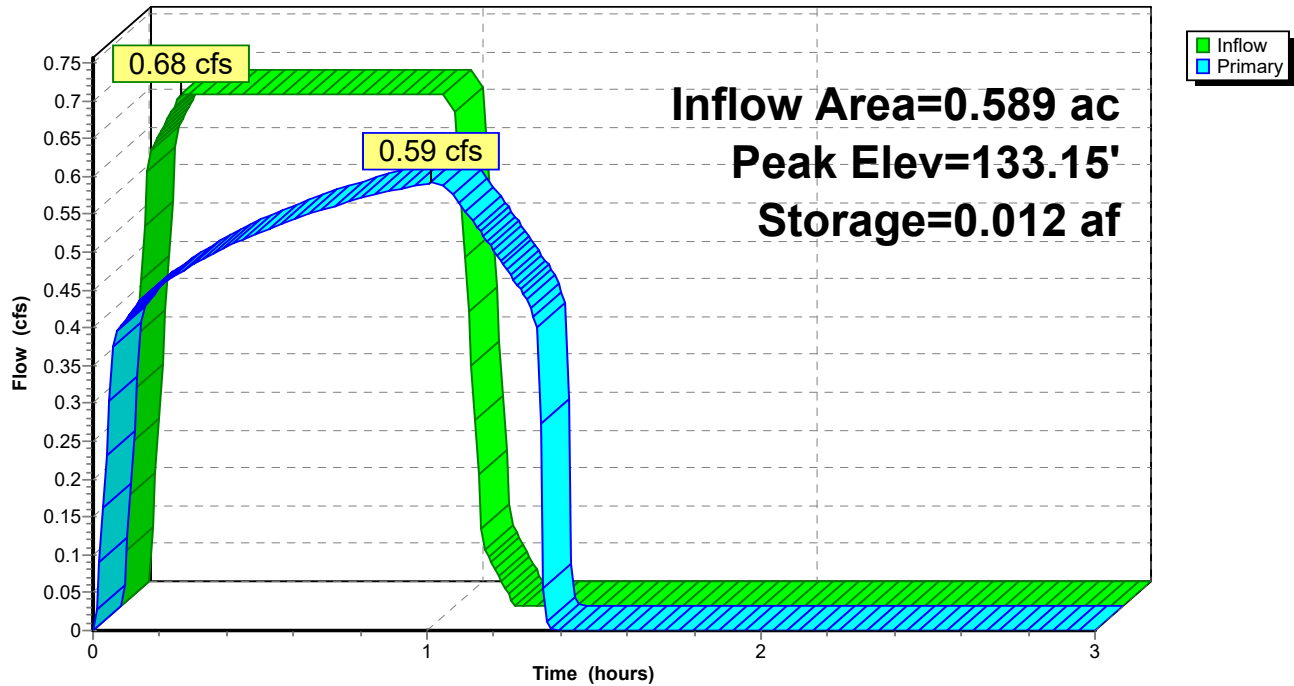
kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 14

Pond 12P: R-TANKS

Hydrograph



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 15

Hydrograph for Pond 12P: R-TANKS

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	132.00	0.00
0.10	0.61	0.001	132.13	0.41
0.20	0.68	0.002	132.34	0.46
0.30	0.68	0.004	132.49	0.48
0.40	0.68	0.006	132.62	0.51
0.50	0.68	0.007	132.74	0.53
0.60	0.68	0.008	132.84	0.54
0.70	0.68	0.009	132.93	0.56
0.80	0.68	0.010	133.01	0.57
0.90	0.68	0.011	133.08	0.58
1.00	0.68	0.012	133.15	0.59
1.10	0.07	0.010	132.96	0.56
1.20	0.00	0.005	132.59	0.50
1.30	0.00	0.001	132.25	0.44
1.40	0.00	0.000	132.00	0.00
1.50	0.00	0.000	132.00	0.00
1.60	0.00	0.000	132.00	0.00
1.70	0.00	0.000	132.00	0.00
1.80	0.00	0.000	132.00	0.00
1.90	0.00	0.000	132.00	0.00
2.00	0.00	0.000	132.00	0.00
2.10	0.00	0.000	132.00	0.00
2.20	0.00	0.000	132.00	0.00
2.30	0.00	0.000	132.00	0.00
2.40	0.00	0.000	132.00	0.00
2.50	0.00	0.000	132.00	0.00
2.60	0.00	0.000	132.00	0.00
2.70	0.00	0.000	132.00	0.00
2.80	0.00	0.000	132.00	0.00
2.90	0.00	0.000	132.00	0.00
3.00	0.00	0.000	132.00	0.00

POST - RATIONAL

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kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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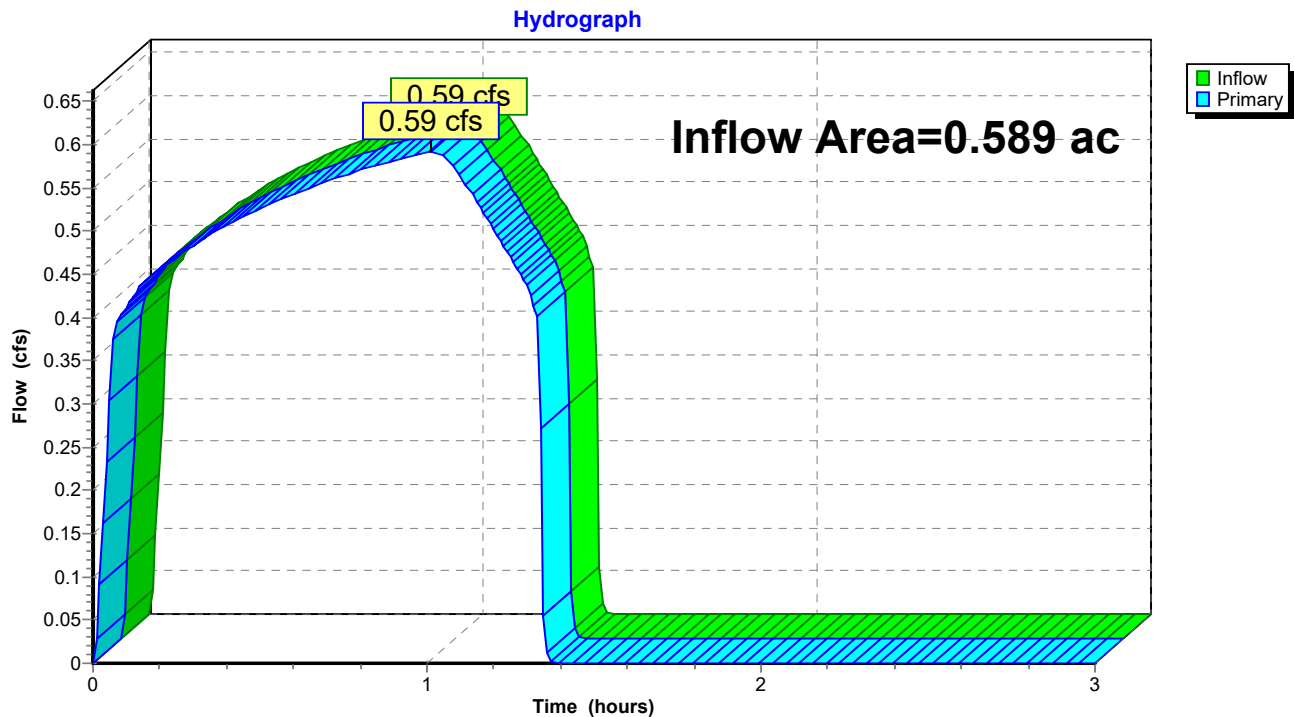
Page 16

Summary for Pond SP-1: (new Pond)

Inflow Area = 0.589 ac, 57.89% Impervious, Inflow Depth = 1.14" for 25-yr event
Inflow = 0.59 cfs @ 1.01 hrs, Volume= 0.056 af
Primary = 0.59 cfs @ 1.01 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1P

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond SP-1: (new Pond)



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 17

Hydrograph for Pond SP-1: (new Pond)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	2.65	0.00		0.00
0.05	0.30		0.30	2.70	0.00		0.00
0.10	0.41		0.41	2.75	0.00		0.00
0.15	0.44		0.44	2.80	0.00		0.00
0.20	0.46		0.46	2.85	0.00		0.00
0.25	0.47		0.47	2.90	0.00		0.00
0.30	0.48		0.48	2.95	0.00		0.00
0.35	0.50		0.50	3.00	0.00		0.00
0.40	0.51		0.51				
0.45	0.52		0.52				
0.50	0.53		0.53				
0.55	0.54		0.54				
0.60	0.54		0.54				
0.65	0.55		0.55				
0.70	0.56		0.56				
0.75	0.56		0.56				
0.80	0.57		0.57				
0.85	0.58		0.58				
0.90	0.58		0.58				
0.95	0.59		0.59				
1.00	0.59		0.59				
1.05	0.59		0.59				
1.10	0.56		0.56				
1.15	0.53		0.53				
1.20	0.50		0.50				
1.25	0.47		0.47				
1.30	0.44		0.44				
1.35	0.06		0.06				
1.40	0.00		0.00				
1.45	0.00		0.00				
1.50	0.00		0.00				
1.55	0.00		0.00				
1.60	0.00		0.00				
1.65	0.00		0.00				
1.70	0.00		0.00				
1.75	0.00		0.00				
1.80	0.00		0.00				
1.85	0.00		0.00				
1.90	0.00		0.00				
1.95	0.00		0.00				
2.00	0.00		0.00				
2.05	0.00		0.00				
2.10	0.00		0.00				
2.15	0.00		0.00				
2.20	0.00		0.00				
2.25	0.00		0.00				
2.30	0.00		0.00				
2.35	0.00		0.00				
2.40	0.00		0.00				
2.45	0.00		0.00				
2.50	0.00		0.00				
2.55	0.00		0.00				
2.60	0.00		0.00				

POST - RATIONAL

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kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr

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Page 18

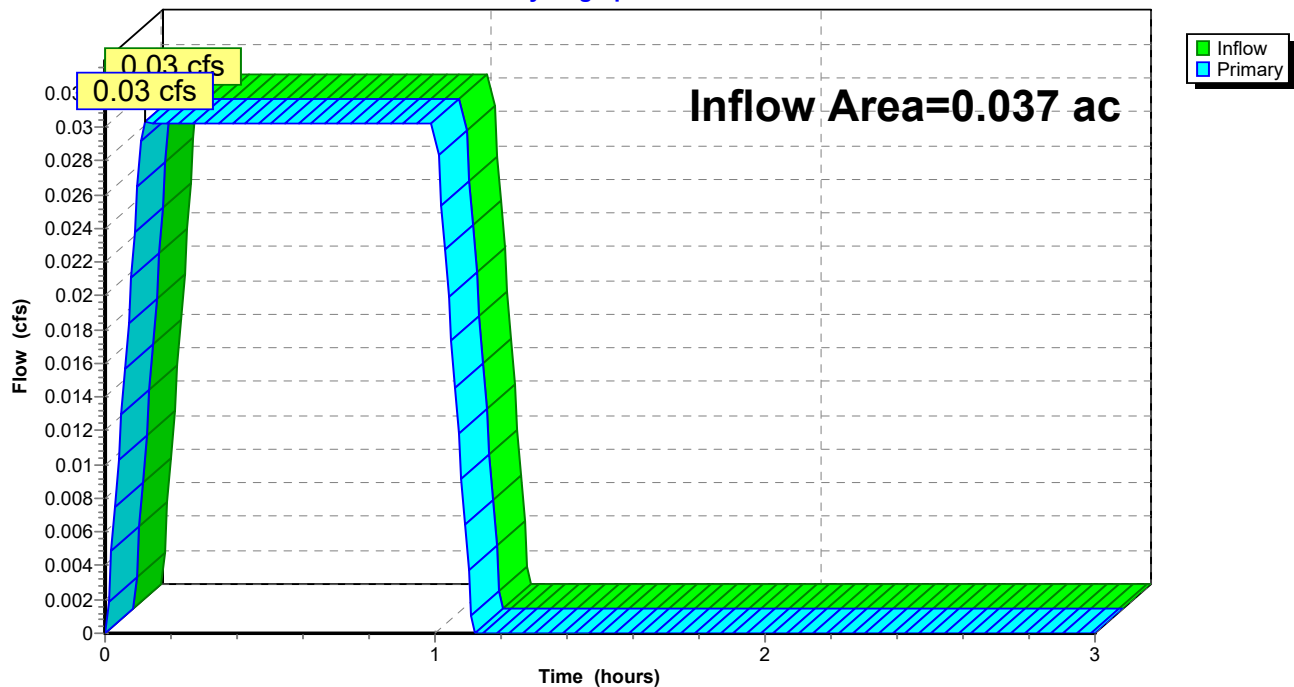
Summary for Pond SP-2: (new Pond)

Inflow Area = 0.037 ac, 36.78% Impervious, Inflow Depth = 0.81" for 25-yr event
Inflow = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af
Primary = 0.03 cfs @ 0.12 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1P

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Pond SP-2: (new Pond)

Hydrograph



POST - RATIONAL*kennebunkport 25-yr Duration=60 min, Inten=1.85 in/hr*

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Page 19

Hydrograph for Pond SP-2: (new Pond)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	2.65	0.00		0.00
0.05	0.01		0.01	2.70	0.00		0.00
0.10	0.03		0.03	2.75	0.00		0.00
0.15	0.03		0.03	2.80	0.00		0.00
0.20	0.03		0.03	2.85	0.00		0.00
0.25	0.03		0.03	2.90	0.00		0.00
0.30	0.03		0.03	2.95	0.00		0.00
0.35	0.03		0.03	3.00	0.00		0.00
0.40	0.03		0.03				
0.45	0.03		0.03				
0.50	0.03		0.03				
0.55	0.03		0.03				
0.60	0.03		0.03				
0.65	0.03		0.03				
0.70	0.03		0.03				
0.75	0.03		0.03				
0.80	0.03		0.03				
0.85	0.03		0.03				
0.90	0.03		0.03				
0.95	0.03		0.03				
1.00	0.03		0.03				
1.05	0.02		0.02				
1.10	0.00		0.00				
1.15	0.00		0.00				
1.20	0.00		0.00				
1.25	0.00		0.00				
1.30	0.00		0.00				
1.35	0.00		0.00				
1.40	0.00		0.00				
1.45	0.00		0.00				
1.50	0.00		0.00				
1.55	0.00		0.00				
1.60	0.00		0.00				
1.65	0.00		0.00				
1.70	0.00		0.00				
1.75	0.00		0.00				
1.80	0.00		0.00				
1.85	0.00		0.00				
1.90	0.00		0.00				
1.95	0.00		0.00				
2.00	0.00		0.00				
2.05	0.00		0.00				
2.10	0.00		0.00				
2.15	0.00		0.00				
2.20	0.00		0.00				
2.25	0.00		0.00				
2.30	0.00		0.00				
2.35	0.00		0.00				
2.40	0.00		0.00				
2.45	0.00		0.00				
2.50	0.00		0.00				
2.55	0.00		0.00				
2.60	0.00		0.00				

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Page 1

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.30	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.90	2
3	25-YR	Type III 24-hr		Default	24.00	1	6.20	2
4	100-YR	Type III 24-hr		Default	24.00	1	8.70	2

POST

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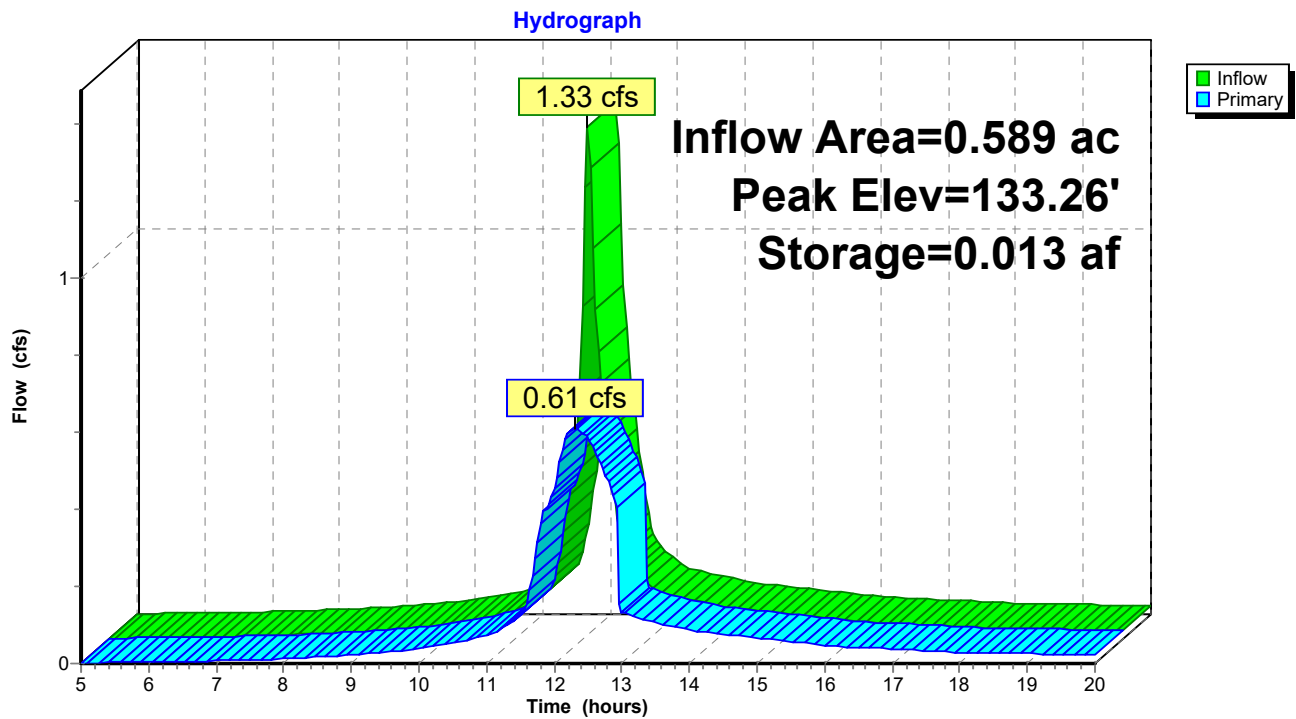
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Type III 24-hr 2-YR Rainfall=3.30"

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Page 2

Pond 12P: R-TANKS



POST

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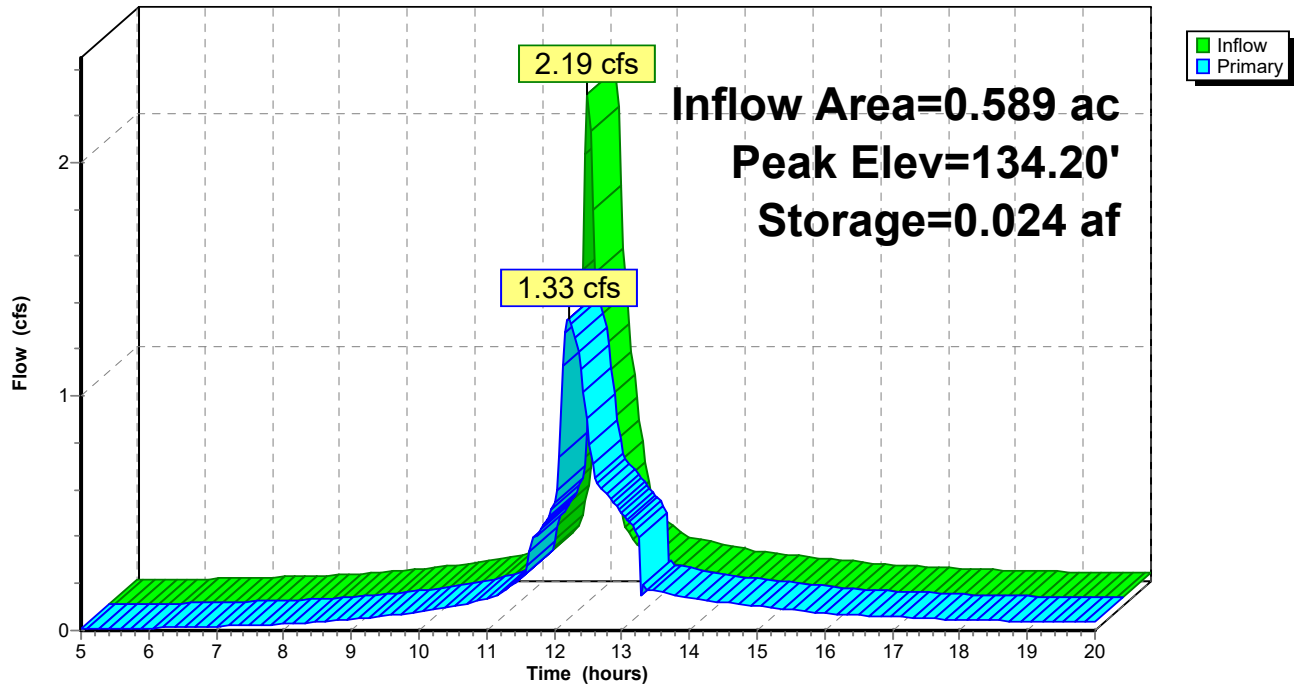
Type III 24-hr 10-YR Rainfall=4.90"

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Page 3

Pond 12P: R-TANKS

Hydrograph



POST

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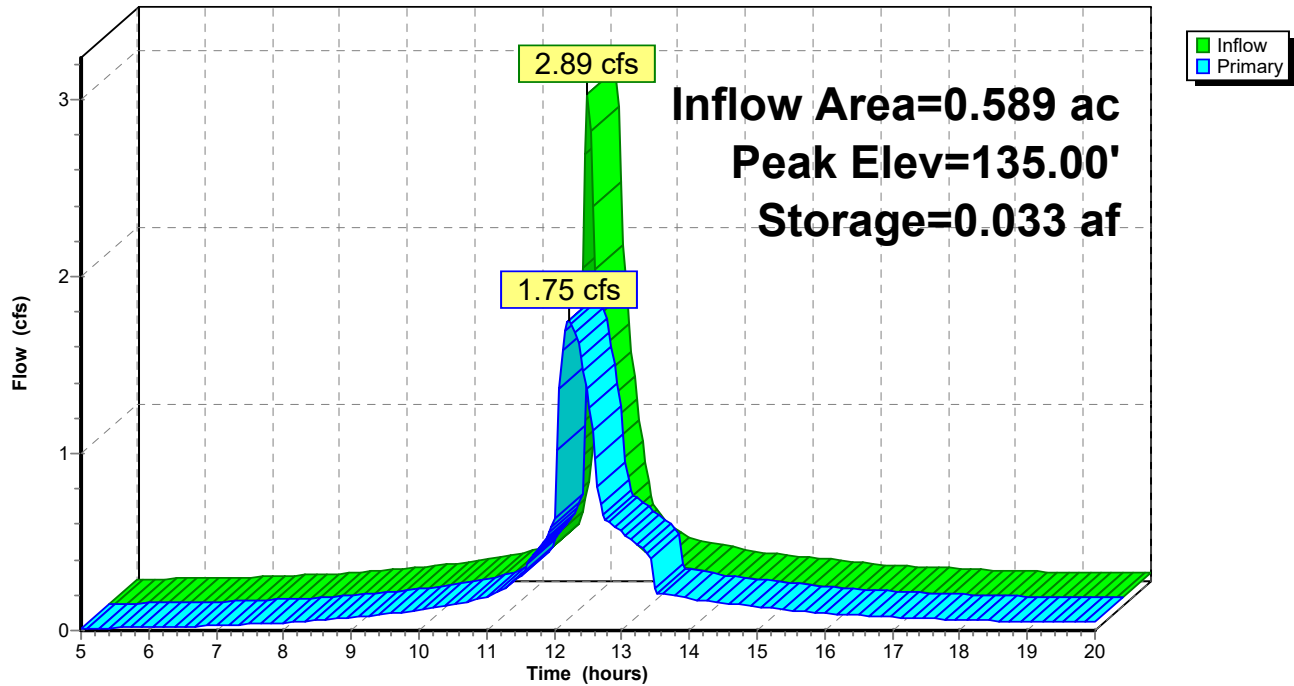
Type III 24-hr 25-YR Rainfall=6.20"

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Page 4

Pond 12P: R-TANKS

Hydrograph



POST

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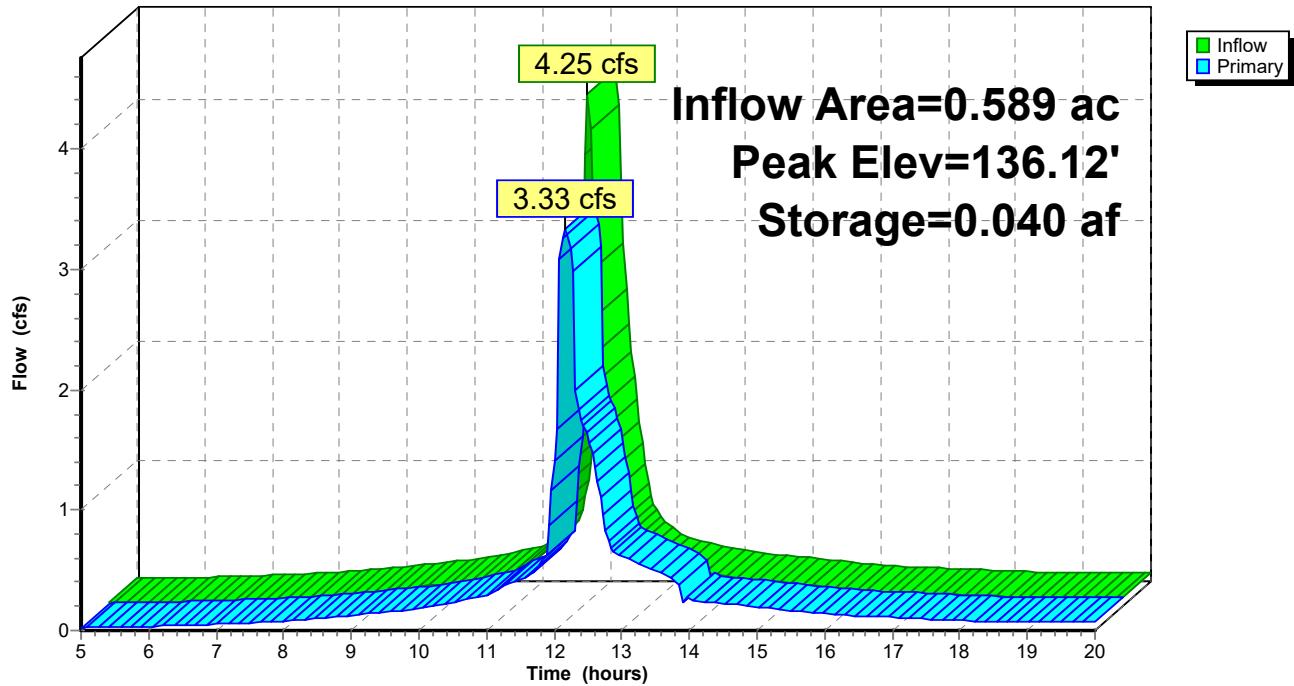
Type III 24-hr 100-YR Rainfall=8.70"

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Page 5

Pond 12P: R-TANKS

Hydrograph



ATTACHMENT 7

Ability To Serve Letters



October 20th, 2023

TERRADYN CONSULTANTS, LLC
Griffin Wood, PE
565 Congress St, Suite 201
Portland, Maine 04101

Re: Ability to Serve Determination – Berry Park Apartments– Raymond St Biddeford

Greetings,

The Maine Water Company (MWC) has received your request for an Ability to Serve Determination for the above referenced project. The request indicates a plan to develop a ten unit apartment building on Raymond St, Tax Map and Lot 29-108. Sprinkler or fire service demand information is not yet available. Based on the criteria that has been presented, MWC does have sufficient capacity in the Raymond Street 8-inch ductile iron main to meet the domestic needs of this project. The static pressure in the area is approximately **45-50psi**. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- MWC will require a single master meter for the building that will monitor all 10 units. The owner is able to install their own sub-meters to monitor usage, but will only obtain one bill for the master meter each billing cycle. MWC will not read, provide, bill or maintain any sub-meters and all sub-meters must be installed at owner's expense.
- Additional plan approval, paperwork and fees associated with new services for this project will require further coordination with MWC. Please allow at least 4 weeks before construction begins on any waterworks materials to finalize all paperwork and fees.

Should a Customer Agreement for service not be executed within one year of the date of this letter, MWC reserves the right to reevaluate its ability to serve this project.

All work must be completed in accordance with Maine Water Company material and installation specifications. All appropriate paperwork must be completed and the deposit paid prior to the start of construction. Please forward all design plan revisions as the project develops to prevent construction delays.

Water service will be provided in accordance with our standard terms and conditions as well as Maine Public Utilities Commission rules. If you have any additional questions, please do not hesitate to contact our office at 1-800-287-1643 or by email at Marcus.Knipp@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Marcus Knipp, P.E.
Engineer

Griffin Wood

From: Chekan, Craig <Craig.Chekan@Biddefordmaine.org>
Sent: Monday, November 20, 2023 3:25 PM
To: Griffin Wood
Cc: Milligan, Tom
Subject: FW: Berry Park Ability to Serve
Attachments: C-5.0 UTILITY PLAN.pdf; F-1-USGS.pdf; Ability to Serve Sewer.pdf

Received; it's in the review pipeline. I've CC'd Tom who leads sewer reviews.

Note this may take a week or two with holiday schedules

Craig Chekan, PE

City of Biddeford | P.O. Box 586, Biddeford, ME 04005

207-571-0636 | craig.chekan@biddefordmaine.org (Office Hours: Mon-Thu, Closed Fri)

From: Griffin Wood <griffin@terradyconsultants.com>
Sent: Monday, November 20, 2023 2:01 PM
To: Chekan, Craig <Craig.Chekan@Biddefordmaine.org>
Subject: FW: Berry Park Ability to Serve

EXTERNAL: This email originated from outside of the City of Biddeford email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Craig,

I sent this ability to serve request to Alex Buechner, he said he would forward it to the engineering department, can you confirm it will be reviewed?

Thanks,

Griffin Wood, P.E.

Project Engineer

Terradyn Consultants, LLC

565 Congress Street, Suite 201

Portland, ME 04101

207.210.4294 (mobile)

207.926.5111 (office)

griffin@terradyconsultants.com

From: Griffin Wood
Sent: Thursday, November 16, 2023 12:26 PM
To: Buechner, Alex <Alex.Buechner@Biddefordmaine.org>
Subject: RE: Berry Park Ability to Serve

Looks like they were not attached, yes please forward them to the engineering department. I got your email from last week, thanks for mapping along Raymond street. We have updated our stormwater plan accordingly and will be proposing to reconstruct the catch basins both near Debbie Avenue and Raymond Street to work with our proposed design.

Thanks,

Griffin Wood, P.E.

Project Engineer

Terradyn Consultants, LLC

565 Congress Street, Suite 201

Portland, ME 04101

207.210.4294 (mobile)

207.926.5111 (office)

griffin@terradyconsultants.com

From: Buechner, Alex <Alex.Buechner@Biddefordmaine.org>

Sent: Thursday, November 16, 2023 12:13 PM

To: Griffin Wood <griffin@terradyconsultants.com>

Subject: RE: Berry Park Ability to Serve

I don't usually take care of the ATS letters, but I forward your info to our engineering department. Was there supposed to be an attachment on your email?

Also, did you get my storm water map email from last week? We have completed the mapping and I'm happy to discuss details with you if it helps.

From: Griffin Wood <griffin@terradyconsultants.com>

Sent: Wednesday, November 15, 2023 9:22 AM

To: Buechner, Alex <Alex.Buechner@Biddefordmaine.org>

Subject: RE: Berry Park Ability to Serve

EXTERNAL: This email originated from outside of the City of Biddeford email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Alex,

I forgot to follow up with you on the ability to serve request for this project. Can you provide confirmation for this 10-unit?

Thanks,

Griffin Wood, P.E.

Project Engineer

Terradyn Consultants, LLC

565 Congress Street, Suite 201

Portland, ME 04101

207.210.4294 (mobile)

207.926.5111 (office)

griffin@terradyconsultants.com

From: Griffin Wood

Sent: Thursday, September 14, 2023 10:50 AM

To: alex.buechner@biddefordmaine.org

Subject: Berry Park Ability to Serve

Good afternoon,

Attached ability to serve request for Berry Park apartments.

Let me know if you have any questions.

Thanks,

Griffin Wood, P.E.

Project Engineer

Terradyn Consultants, LLC

565 Congress Street, Suite 201

Portland, ME 04101

207.210.4294 (mobile)

207.926.5111 (office)

griffin@terradyconsultants.com

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Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

ATTACHMENT 8

FINANCIAL CAPACITY



NOTICE TO PROCEED

Not a Commitment of Financing or Tax Credits

December 20, 2022

Joshua A. Benthien, Manager
Everybody Loves Raymond St GP LLC, General Partner
Everybody Loves Raymond St LP
17 South Street, 3rd Floor
Portland, Maine 04101

Re: **Berry Park Apartments, Biddeford, Maine**
2020 4% Tax Credit Walk – In Funding Program
2021-2022 Qualified Allocation Plan (the “QAP”)

Dear Mr. Benthien:

Maine State Housing Authority (“MaineHousing”) is pleased to inform you that the application submitted on July 7, 2022 (the “Application”) to the 2020 4% Tax Credit Walk – In Funding Program (the “Program”) by Everybody Loves Raymond St LP (the “Developer”) for the acquisition/rehabilitation of 36 units and the construction of 10 additional units of housing for families located at 27-81 Raymond Street in Biddeford, York County, Maine (the “Project”) meets the submission requirements of the Program and will be processed.

This is not a commitment of financing or low-income housing tax credits (the “Credits”).

MaineHousing must complete its underwriting process before deciding whether to issue a term sheet and allocate the Credits to Developer for the Project. Developer must accept this Notice to Proceed by executing and returning the original without modification to MaineHousing **no later than January 3, 2023** (“Acceptance Deadline”).

Underwriting

Upon receipt of the fully executed original Notice to Proceed from Developer, MaineHousing will continue underwriting the Application. To complete the underwriting process, the following must be provided in form and substance satisfactory to MaineHousing:

- an appraisal that is prepared by a qualified MAI appraiser, commissioned by MaineHousing or by another participating lender with MaineHousing as an intended user and subject to MaineHousing review, which must support the funding for the Project within the parameters of the Program;
- evidence of all permits, licenses and approvals required for the construction of the Project under applicable federal, state and local laws and ordinances with the expiration of all applicable appeal periods and the resolution of any appeals thereof;
- construction plans and specifications and form of construction contract(s) for the Project and related improvements;

- bids based on the final plans and specifications for the Project;
- final development and operating budget for the Project within the parameters of the Program;
- written commitment(s) from equity provider(s) for the Credits and any other tax credits to be allocated or claimed in connection with the Project;
- written commitment(s) for all construction and permanent funding sources in the amounts and on the terms identified in the Application and any other funding sources that are necessary to complete the Project;
- a Phase I environmental site assessment of the Project and all areas adjacent to the Project prepared by a qualified environmental professional in accordance with the EPA All Appropriate Inquiry Standards;
- preliminary determination of tenant incomes for all 36 existing units indicating whether they will qualify as Credit units;
- confirmation from HUD that the conversion of the Section 23/8 Housing Assistance Payment Contract to a Section 8 Project-Based Voucher Contract will not trigger Davis-Bacon wage rate requirements;
- relocation plan to address in-place tenants during rehabilitation which complies with MaineHousing's *Temporary Relocation and Permanent Displacement Policy* set forth in the RLP Guide; and
- any other information MaineHousing determines is necessary or reasonable to underwrite the Application.

After completing the underwriting process, MaineHousing will determine whether to provide funding and allocate the Credits for the Project. The sources, amounts, terms and conditions of any funding and Credits made available for the Project will be set forth in a term sheet from MaineHousing.

Funding

Any funding from MaineHousing for the Project will include construction financing from the proceeds of tax-exempt bonds to be issued pursuant to Section 142(d) of the Internal Revenue Code in an amount at least equal to 50% of the aggregate basis of the Project in order to generate "automatic" 4% Credits for the Project under Section 42 of the Code. The annual amount of Credits is currently projected to be \$493,796. This projected amount assumes all of the 36 existing units will qualify for Credits. Developer must obtain tenant income certifications and verifications for existing tenants in these units confirming eligibility under Section 42 of the Internal Revenue Code. The tenant income certifications and verifications must be completed within the period beginning 120 days prior to Project acquisition and ending 120 days after Project acquisition.

Developer has applied for and, subject to underwriting and funding availability, may be eligible for 0% interest deferred debt in an amount up to \$3,880,000.00. The amount of 0% interest deferred debt will not be more than is necessary for the financial feasibility of the Project, based on MaineHousing's underwriting criteria and the availability of other funding sources. To achieve the most efficient use of 0% interest deferred debt, MaineHousing expects Developer to maximize other available funding sources for the Project, including without limitation, equity from the automatic

Credits. A portion of the 0% interest deferred debt may be made available during the construction of the Project to the extent possible.

Program Requirements

Any funding and allocation of Credits will require Developer to comply with the requirements of the Program, applicable requirements of the Rental Loan Program Guide dated October 2017, the QAP and Developer's commitments in the Application including, without limitation, the following requirements:

Extended Use Agreement and Program Declaration of Covenants

Developer will be required to enter into an Extended Use Agreement and Program Declaration of Covenants to be recorded in the appropriate Registry of Deeds obligating Developer to: (i) keep all of the units in the Project occupied by households with income at or below 60% of the area median income and rent restricted for 45 years; and (ii) provide a resident service coordinator at the Project for at least 10 hours each week over a period of at least 2 days each week.

Financial Assistance Agreement

Developer will be required to enter into a Financial Assistance Agreement, to be recorded in the appropriate Registry of Deeds, obligating Developer to comply with the affordability and use requirements set forth above for a period of 45 years (except that area median income and income eligibility will be determined in accordance with Section 142(d) of the Code) and other requirements set forth in Section 142(d) of the Code and associated regulations and guidance.

Section 23/8 Conversion

The Project currently has a HUD Section 23/8 Housing Assistance Payments Contract in connection with the 36 existing units (the "23/8 HAP Contract"). The current owner of the Project will enter into a replacement HUD Section 8 Project-Based Voucher Housing Assistance Payments Contract for the 36 existing units for a term of twenty (20) years (the "PBV HAP Contract"). Developer will assume the PBV HAP Contract at the Project acquisition closing.

Design and Construction Requirements

The Project must be designed and constructed in accordance with MaineHousing's *Quality Standards and Procedures Manual*, dated May, 2021 including the accessibility requirements set forth in the latest version of MaineHousing's *Accessibility Policy and Procedures for the Design and Construction of Multi-family and Supportive Housing Projects* and the pledge of additional accessible units in the Application.

Section 3 Requirements

Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and the implementing regulations at 24 CFR 75 (“Section 3”) require that employment and other economic opportunities generated by certain HUD financial assistance must, to the greatest extent feasible and consistent with existing federal, state and local laws, be directed to low- and very low-income persons (particularly those who are recipients of government assistance for housing) and to business concerns that provide economic opportunities to low- and very low-income persons.

Developer and its contractors and subcontractors must comply with Section 3 and the latest version of MaineHousing’s *Section 3 Policies and Procedures* and *Section 3 Contractor, Subcontractor and Subrecipient Package* implementing the Section 3 requirements, which can be found on the MaineHousing website.

Development Deadlines

MaineHousing expects the Developer to promptly and diligently pursue the development and construction of the Project. Failure to do so may result in termination of this Notice to Proceed and the MaineHousing funding and Credits described herein. Developer should complete the following stages of development of the Project by the following corresponding deadlines:

Stage of Development	Deadline for Completion
Submission of 50% plans and specifications and updated development budget to MaineHousing (referred to as “50% Plan Submission”)	March 22, 2023
Submission of 90% plans and specifications and updated development budget to MaineHousing (referred to as “90% Plan Submission”)	May 17, 2023
Final pricing (guaranteed maximum or fixed sum, as applicable)	July 6, 2023
Construction loan closing	August 29, 2023

Termination of Award

MaineHousing may deem the Application withdrawn and terminate this Notice to Proceed and any award of low-income housing tax credits issued pursuant hereto if any of the following occur, and any delay or failure in exercising these termination rights is not a waiver thereof.

- (1) Developer fails to execute and return the original of this Notice to Proceed by the Acceptance Deadline.
- (2) Developer fails to complete any Stage of Development of the Project by its corresponding Deadline for Completion.
- (3) Developer is unable to close any gap in the Project's budget resulting from a loss of equity or other funding or increased costs within 90 days of the date MaineHousing notifies Developer that the Project is no longer feasible.
- (4) There is any change from the commitments or representations made in the Application,
- (5) There is a change in the location of the Project from that identified in the Application.
- (6) Any interest in the Application or this Notice to Proceed is assigned or there is any change in the structure or ownership of Developer from that described in the Application.
- (7) There is any change in the design or costs of the Project from that described in the Application that will result in a substantial increase in the MaineHousing funding for the Project.
- (8) Developer, or any principal or affiliate thereof, is or becomes (a) insolvent or the subject of any proceeding or arrangement for relief from creditors, including without limitation bankruptcy, or otherwise suffers a material adverse change in financial condition, (b) 60 or more days delinquent or otherwise in default of any MaineHousing loan not cured within any applicable cure period, or (c) debarred, suspended or excluded from any federal or state programs.

If you have questions, please contact Brianne McNally, the Multifamily Loan Officer, at 207.624.5788 or bmcnally@mainehousing.org, or Kin Dydasco, the Construction Analyst assigned to the Project, at 207.624.5709 or kdydasco@mainehousing.org.

Sincerely,



Daniel Brennan
Director

cc: Brianne McNally, MaineHousing Multifamily Loan Officer
Kin Dydasco, MaineHousing Construction Analyst

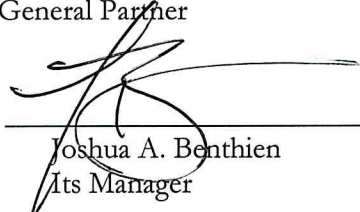
Everybody Loves Raymond St LP
December 20, 2022
Page 6

The undersigned hereby acknowledges, accepts and agrees to the foregoing Notice to Proceed, and the undersigned hereby certifies that he is duly authorized to execute this Notice to Proceed on behalf of Developer.

EVERYBODY LOVES RAYMOND ST LP

By: Everybody Loves Raymond St GP LLC
Its General Partner

By: _____


Joshua A. Benthien
Its Manager

ATTACHMENT 9

EXISTING PHOTOS

Berry Park Apartments – 36 Unit Family Section 8 Apartments in Biddeford, Maine



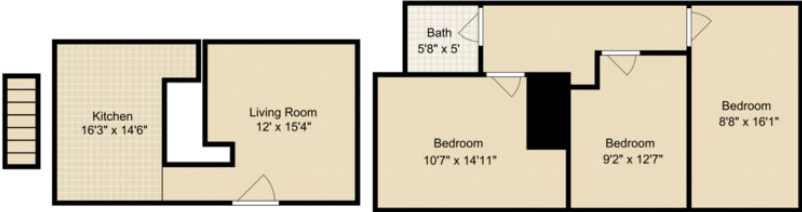
Berry Park Apartments – 36 Unit Family Section 8 Apartments in Biddeford, Maine



Berry Park Apartments – 36 Unit Family Section 8 Apartments in Biddeford, Maine



Floor Plans



Community Map



ATTACHMENT 10

AGENCY LETTERS



MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

October 4, 2023

Mr. Griffin Wood
Terradyn Consultants, LLC
41 Campus Dr
Suite 301
New Gloucester, ME 04260

Project: MHPC #1248-23 Northland Enterprises; Berry Park; Raymond St
New 10-Unit Building
Town: Biddeford, ME

Dear Mr. Wood:

In response to your recent request, I have reviewed the information received September 25, 2023 to continue consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I have concluded that there will be no historic properties (architectural or archaeological) affected by this proposed undertaking, as defined by Section 106.

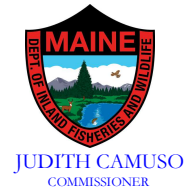
Please contact Megan Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer



STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



November 17, 2023

Griffin Wood
Terradyn
41 Campus Drive, Suite 301
New Gloucester, ME 04260

RE: Information Request – Berry Park Expansion, Biddeford Project (ERID 7075)

Dear Griffin:

Per your request, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Berry Park Expansion, Biddeford* project.

Our Department has not mapped any Essential or Significant Wildlife Habitats or inland fisheries habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, four species are afforded protection under Maine’s Endangered Species Act (MESA, 12 M.R.S §12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence, it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. The Maine Endangered Species Act prohibits activities that may cause “Take” (kill or cause death), “harassment” (create injury or significantly disrupt normal behavior patterns), and other adverse actions to State Endangered and Threatened species. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Letter to Griffin Wood, Terradyn
Comments RE: Berry Park Expansion, Biddeford
November 17, 2023

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

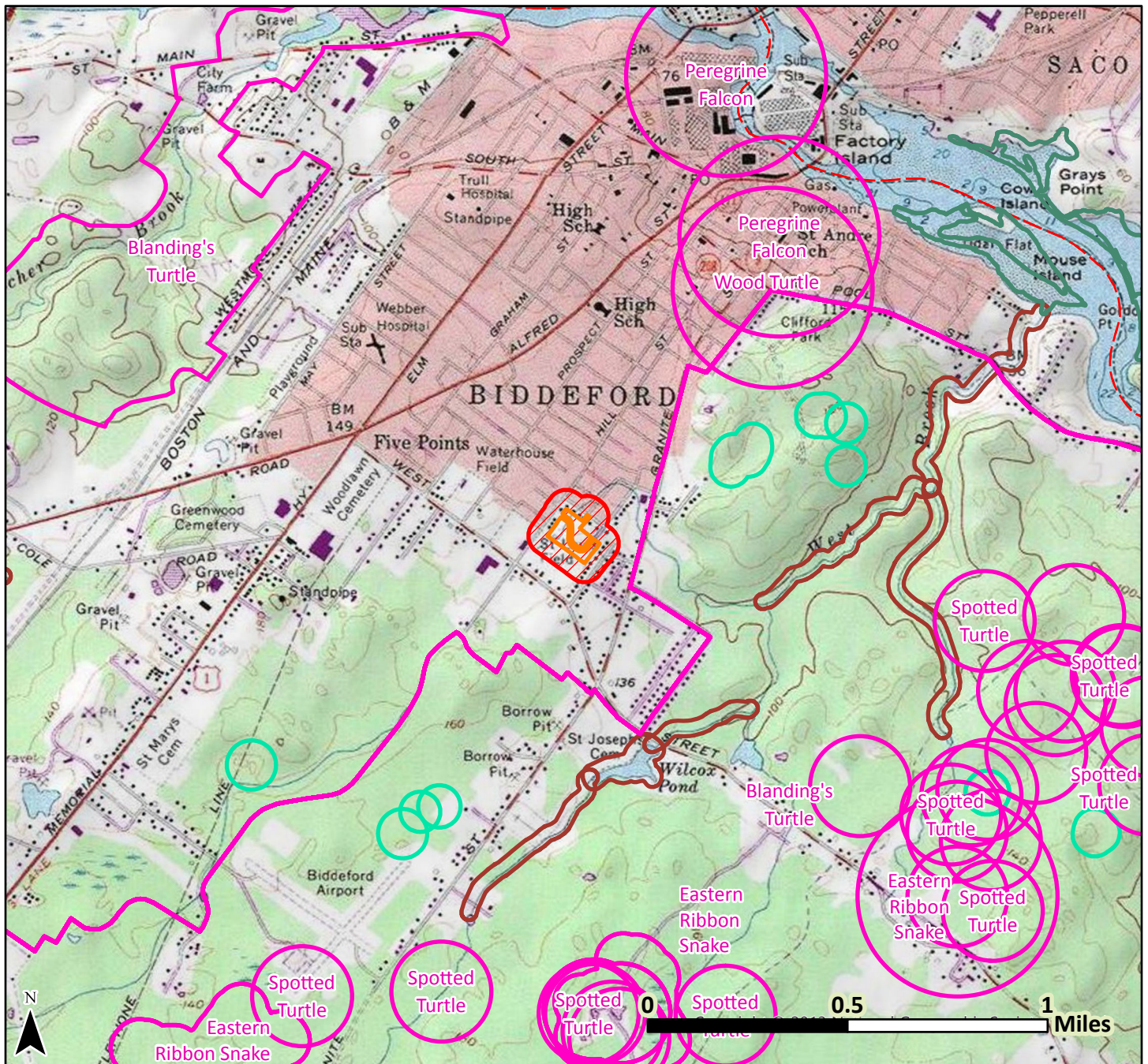
A handwritten signature in blue ink, appearing to read "Ciara Hayes". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Ciara Hayes
Resource Biologist



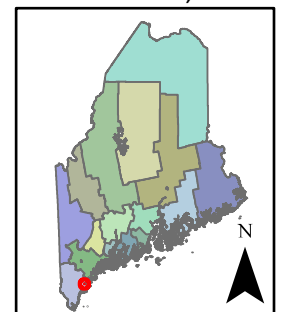
Maine Department of Inland Fisheries and Wildlife
Environmental Review of Fish and Wildlife Observations and Priority Habitats

Berry Park Expansion. Raymond Street, Biddeford



- County Boundary
- Township Boundary
- Project Footprint
- Search Area
- E, T, & SC Species
- Significant Vernal Pool
- Special Concern Fish
- Tidal Waterfowl/Wading Bird

Date: 8/31/2023
Projection:
UTM Zone 19N, NAD83



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.

ATTACHMENT 11

SALT MANAGEMENT PLAN



November 20, 2023

2068

Salt Control Plan
Berry Park 10-Unit

- No significant quantities of salt (sodium chloride or calcium chloride) will be stored on site.
- During winter months, small (15-30 gallon) covered containers of salt will be stationed near the entryways of the buildings for hand distributed treatment of the entry walk.
- As warranted by anticipated winter-weather conditions, pretreatment of the driving surfaces and sidewalks will be applied from work truck and sidewalk vehicle mounted applicators operated by the snow removal contractor.
- As warranted by anticipated post storm temperatures, reapplication of deicing salt may occur after snow removal activities have completed.

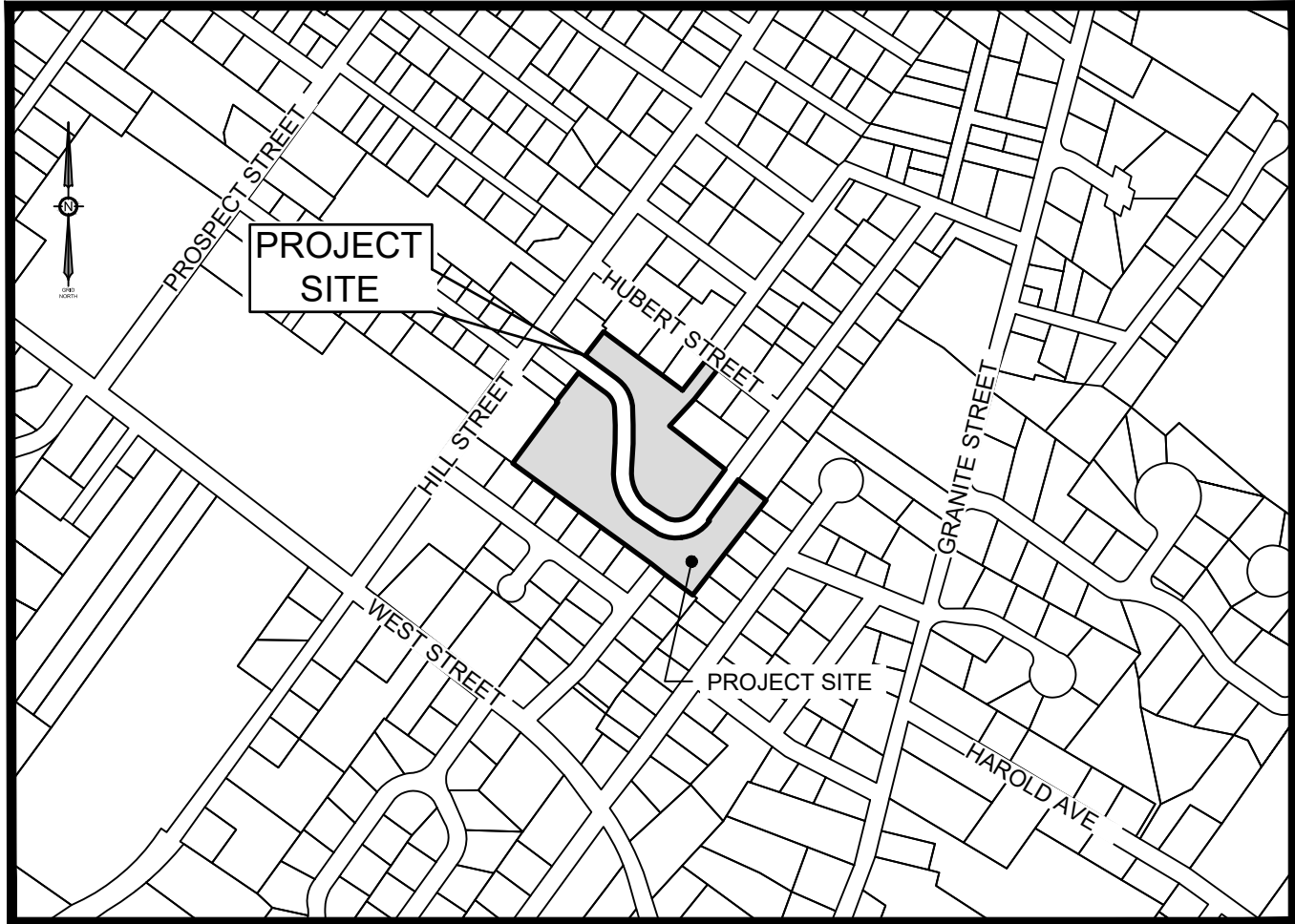
APPLICANT/OWNER:
BERRY PARK APARTMENTS, LLC
17 SOUTH STREET, 3RD FLOOR
PORTLAND, MAINE 04101

PROJECT PARCEL SITE
CITY OF BIDDEFORD TAX ASSESSOR'S MAP,
LOT NUMBER & ZONING DISTRICT
MAP 29 LOT 108 ZONING DISTRICT
RESIDENTIAL 2

SITE PLANS

BERRY PARK EXPANSION

RAYMOND STREET - BIDDEFORD, MAINE



LOCATION MAP

SCALE: 1"=500'

SHEET INDEX

C-1.0	COVER SHEET
1	TOPOGRAPHIC SURVEY PLAN
C-2.0	EXISTING CONDITIONS & DEMOLITION PLAN
C-3.0	SITE PLAN
C-4.0	GRADING, DRAINAGE, & EROSION CONTROL PLAN
C-5.0	UTILITY PLAN
C-6.0	SITE DETAILS
C-6.1	DRAINAGE & UTILITY DETAILS
C-7.0	PHOTOMETRIC PLAN
C-8.0	LANDSCAPE PLAN

PREPARED BY:

CIVIL ENGINEER:
TERRADYN CONSULTANTS, LLC
565 CONGRESS STREET, SUITE 201
PORTLAND, MAINE 04101
(207) 926-5111

SURVEYOR:
TERRADYN CONSULTANTS, LLC
79 MAIN STREET, SUITE 300
AUBURN, MAINE 04210
(207) 946-4480

ARCHITECT:
ARCHETYPE
48 UNION WHARF
PORTLAND, ME 04101
(207) 772-6022

LANDSCAPE ARCHITECT:
ANTHONY MUENCH
94 COMMERCIAL STREET
PORTLAND, MAINE 04101
(207) 761-6621

CITY OF BIDDEFORD NOTES

- THE EXISTING PROJECT SITE WITHIN BERRY PARK IS VACANT, COMPRISED OF MOWED GRASS AND UNMAINTAINED SHRUB VEGETATION
- THE PROPOSED PROJECT IS FOR THE CONSTRUCTION OF A 10-UNIT RESIDENTIAL BUILDING WITH ASSOCIATED INFRASTRUCTURE
- PROPOSED WAIVERS: ARTICLE VI SECTION 49-C-3-F PARKING AISLE REDUCTION FROM 24' TO 22'
- DRAINAGE WATERSHED: SACO RIVER
- THE PROJECT SITE IS WITHIN THE MS4 URBANIZED AREA
- THERE ARE NO STREAMS OR WETLANDS LOCATED ON-SITE OR ADJACENT TO THE PROPERTY
- THE PROJECT IS NOT WITHIN THE 100-YEAR FLOOD ZONE
- THERE IS NO PUBLIC ROAD PROPOSED
- THERE IS NO PRIVATE ROAD PROPOSED
- PUBLIC SEWER CONNECTION ESTIMATE PER MAINE SUBSURFACE WASTEWATER DISPOSAL RULES: 1,250 GPD
- THE PROJECT WILL CONNECT TO THE PUBLIC STORM DRAIN
- LIMIT OF DISTURBANCE: 0.60 ACRES
- EXISTING PERVIOUS COVER: 26,572 SF
- PROPOSED PERVIOUS COVER: 10,454 SF
- EXISTING IMPERVIOUS COVER: 858 SF
- PROPOSED IMPERVIOUS COVER: 15,454 SF
- EXISTING ROOF: 0 SF
- PROPOSED ROOF: 5,886 SF
- ASSIGNED PLANNING BOARD NUMBER: 2023.44
- ESTIMATED CUT: 837 YARDS
- ESTIMATED FILL: 216 YARDS

UTILITIES

SEWER
CITY OF BIDDEFORD
WASTEWATER DIVISION
63 WATER STREET
BIDDEFORD, MAINE 04005
(207) 282-1350

WATER
MAINE WATER COMPANY
466 SOUTH STREET
BIDDEFORD, MAINE 04005
1-800-287-1643

ELECTRIC
CENTRAL MAINE POWER CO.
162 CANCO ROAD
PORTLAND, ME 04103
(207) 842-2367

TELEPHONE
FAIRPOINT COMMUNICATIONS
P.O. BOX 11560
PORTLAND, MAINE 04104
1-888-984-1515

CABLE
CHARTER COMMUNICATIONS
301 MARINER WAY
BIDDEFORD, MAINE 04005
(877) 482-3782

DIG SAFE SYSTEM, INC.
TEL. 1-888-DIG-SAFE (344-7233)
FAX 1-781-721-0047
WWW.DIGSAFE.COM

PERMITS

TYPE OF PERMIT	GOVERNING BODY	STATUS
SITE PLAN APPROVAL	CITY OF BIDDEFORD, MAINE PLANNING BOARD 205 MAIN STREET BIDDEFORD, ME 04005 TEL. 207-571-0700	SUBMITTED 11/15/2023
BUILDING PERMIT	CITY OF BIDDEFORD, MAINE CODE ENFORCEMENT 205 MAIN STREET BIDDEFORD, ME 04005 TEL. 207-284-9236	TO BE SUBMITTED BY OWNER/CONTRACTOR

LEGEND

---	EXISTING PROPERTY LINE
- - - -	PROJECT SITE BOUNDARY
---	EXISTING SETBACK LINE
- - - -	PROPOSED EASEMENT
-----124-----	EXISTING MINOR CONTOUR
-----124-----	EXISTING MAJOR CONTOUR
-----124-----	PROPOSED CONTOUR
---SD---	EXISTING STORMDRAIN
---SD---	PROPOSED STORMDRAIN
---UD---	EXISTING UNDERDRAIN
---UD---	PROPOSED UNDERDRAIN
---OHE---	EXISTING OVERHEAD ELECTRIC & TELEPHONE
---OHE---	PROPOSED OVERHEAD ELECTRIC & TELEPHONE
---UGE---	EXISTING UNDERGROUND ELECTRIC & TELEPHONE
---UGE---	PROPOSED UNDERGROUND ELECTRIC & TELEPHONE
=====	EXISTING EDGE OF PAVEMENT
=====	PROPOSED EDGE OF PAVEMENT
-----	EXISTING EDGE OF GRAVEL
-----	PROPOSED EDGE OF GRAVEL
=====	EXISTING CURB
=====	PROPOSED CURB
=====	PROPOSED FENCE
-----	SILT FENCE
TP-A	TEST PIT
⌵	EXISTING VALVE
⌵	PROPOSED VALVE
⊕	EXISTING HYDRANT
⊕	EXISTING LIGHT POLE
⊕	PROPOSED LIGHT POLE
⊕	EXISTING UTILITY POLE
⊕	EXISTING CATCH BASIN
⊕	PROPOSED CATCH BASIN
⊕	EXISTING DRAIN MANHOLE
⊕	PROPOSED DRAIN MANHOLE
⊕	EXISTING SEWER MANHOLE
⊕	PROPOSED SEWER MANHOLE
⊕	EXISTING SPOT GRADE
⊕	PROPOSED SPOT GRADE
⊕	SURVEY CONTROL POINT
⊕	EXISTING MONUMENT
⊕	EXISTING IRON PIPE
⊕	EXISTING SIGN
⊕	PROPOSED SIGN
⊕	EXISTING BUILDING
⊕	PROPOSED BUILDING
⊕	PROPOSED CONCRETE
⊕	PROPOSED PAVEMENT

GENERAL NOTES

- THE PROJECT WILL BE SUBJECT TO THE TERMS AND CONDITIONS OF ALL PERMITS ISSUED BY THE CITY OF BIDDEFORD, AND THE LOCAL UTILITY COMPANIES.
- ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY THE CITY OF BIDDEFORD OR THE LOCAL UTILITY COMPANIES SHALL BE COORDINATED BY THE CONTRACTOR.
- THE LOCATION AND/OR ELEVATIONS OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBLE OF THE CONTRACTOR TO RELOCATE ANY EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIRED TO PREVENT EROSION AND SEDIMENTATION. ADDITIONAL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY THE OWNER, ENGINEER, OR REGULATING AGENCIES.
- ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE STRICTEST STANDARDS CONTAINED IN THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE PROJECT SPECIFICATIONS, AND THE UTILITY COMPANY AND CITY OF BIDDEFORD REQUIREMENTS.
- ALL DIMENSIONS, UNLESS OTHERWISE NOTED IS TO THE EDGE OF PAVEMENT, FACE OF CURB, OR THE FACE OF THE BUILDING.
- ALL SIGNAGE SHALL BE SUPPLIED AND INSTALLED IN COMPLIANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

UTILITY NOTES

- THE PROJECT WILL BE SERVED BY INDIVIDUAL WELLS AND SUBSURFACE WASTEWATER DISPOSAL SYSTEMS .
- ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n=0.012 OR LESS.

STATE OF MAINE
MICHAEL E. WELANDT
LICENSED PROFESSIONAL ENGINEER
11/22/2023

DATE: 11/22/2023

REVISIONS

DATE

NO

1

2

3

11/22/2023

11/15/2023

10/17/2023

MSHA 90% SUBMISSION

CITY OF BIDDEFORD SITE PLAN SUBMISSION

MSHA 50% SUBMISSION

ADDRESS: 41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE: (207) 926-5111

WEB SITE: www.terradynconsultants.com

PROJECT: BERRY PARK EXPANSION
27-81 RAYMOND STREET, BIDDEFORD, ME

SHEET TITLE: COVER SHEET

CLIENT: EVERYBODY LOVES RAYMOND ST, LP
17 SOUTH STREET, 3RD FLOOR
PORTLAND, ME 04101

DATE: 8/23/2023

SCALE: AS NOTED

JOB NO: 20-68

SHEET: C-1.0

PERMIT DRAWING
NOT FOR CONSTRUCTION

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27-81 RAYMOND STREET, BIDDEFORD, ME

SHEET TITLE: COVER SHEET

CLIENT: EVERYBODY LOVES RAYMOND ST, LP
17 SOUTH STREET, 3RD FLOOR
PORTLAND, ME 04101

DATE: 8/23/2023

SCALE: AS NOTED

JOB NO: 20-68

SHEET: C-1.0

PROJECT: BERRY PARK EXPANSION
27-81 RAYMOND STREET, BIDDEFORD, ME

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DATE: 8/23/2023

SCALE: AS NOTED

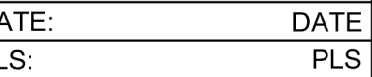
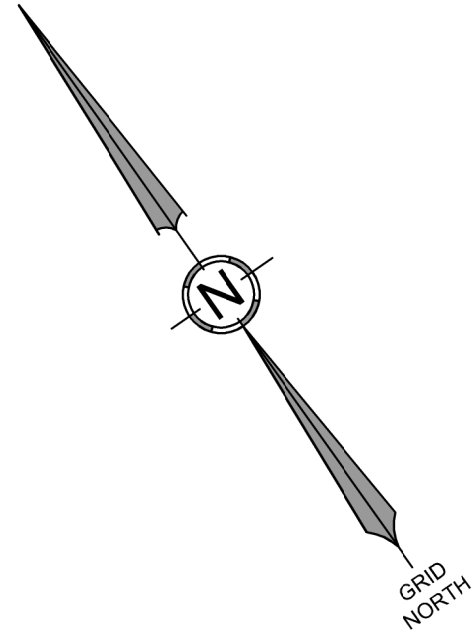
JOB NO: 20-68

SHEET: C-1.0

PROJECT: BERRY PARK EXPANSION
27-81 RAYMOND STREET, BIDDEFORD, ME

SHEET TITLE: COVER SHEET

CLIENT



1. The purpose of this plan is to depict the results of a Boundary Retracement & Existing Conditions/Topographic survey of a portion of the subject parcel.
2. All Book and Page numbers refer to the York County Registry of Deeds, unless otherwise noted.
3. The record owner of the subject parcel is Berry Park Apartments, LLC by a deed dated October 17, 2002 and recorded in Book 12086, Page 26.
4. The subject parcel is shown on the Town of Biddeford Tax Map 29 as Lot 108 and is located in the Residential 2 District.
5. Space and bulk standards for the Residential 2 District (assumed municipal water and sewer) as of the date of this plan are as follows:

Min. Lot Size:	4,500 sq ft
Min. Frontage:	45 ft
Min. Front Setback:	25 ft
Min. Side Setback:	5 ft
Min. Rear Setback:	5 ft
Max. Building Height:	35 ft
6. Total area of the subject parcel is 5.66 acres.
7. Boundary and topographic information shown herein is based on an on-the-ground survey conducted by Terradyn Consultants, LLC in July 2023 and the plans listed below.
8. Plan References:
 - A. "ALTA/CASIM Land Title Survey of Land of Berry Park Apartments, LLC. Prepared on the behalf of Berry Park Apartments, LLC C/O Northford Enterprises, LLC by Civil Consultants. Dated January 7, 2011. Recorded in the York County Registry of Deeds as Plan Book 348 Page 11.
 - B. "Boundary Plan of Berry Park" Performed by Des Roberts & Henry, Inc. Dated September 3, 1976. Recorded in the York County Registry of Deeds as Plan Book 72 Page 35.
9. Plan orientation is Grid North, Maine State Plane Coordinate System, West Zone 1802-NAD83. Elevations depicted hereon are NAVD83, based on dual-frequency GPS observations.
10. A portion of the subject parcel is located within Zone C, Areas of Minimal Flood Hazard, as delineated on the Flooding Insurance Rate Map for the Town of Biddeford, York County, Community-Panel Number 2301450004B, having an Effective Date of May 15, 1984.
11. The depth, size, location, existence or nonexistence of underground utilities and/or structures were investigated by ProMark Utility Locating, Inc. in July 2023. Owners, contractors, and/or designers need to call Dig-Safe Systems, Inc. (call 811) and field verify existing utilities prior to digging or breaking ground.

[illegible]

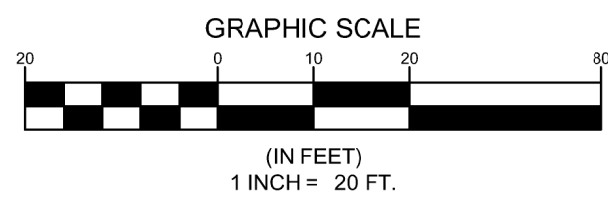
Civil Engineering | Land
Stormwater Design | Land Planning

PERMIT DRAWING
NOT FOR CONSTRUCTION

BERRY PARK
27-81 RAYMOND STREET, BIDDEFORD MAINE
SHEET TITLE: BOUNDARY RETRACEMENT & EXISTING CONDITIONS/TOPOGRAPHIC SURVEY
FOR RECORD OWNER: **NORTHLAND ENTERPRISES**
17 SOUTH STREET, 3RD FLOOR
PORTLAND, ME 04101
DATE: AUGUST 30, 2023
SCALE: 1"= 20'
JOB NO: 2068
SHEET: 1 OF 1

Sheet Size: 24" X 36"

Received _____
At ____ h ____ m ____ M and recorded in
Plan Book _____, Page _____
Attest _____
Registrar



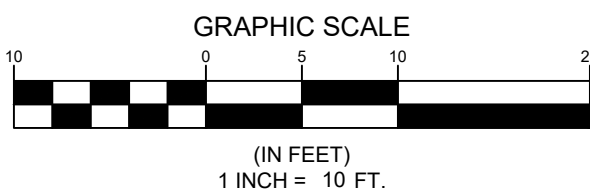
To the best of my knowledge, I have used ordinary and prudent conduct expected of Professional Land Surveyors and the results shown here represent the licensee's responsibility to the public as required under the Standards of Practice as defined by the Board of Licensure for Professional Land Surveyors (M.R.S.A Title 32, Chapter 141, Dated April 2001).

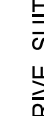
Except as Follows:

1. Survey Report Limited to Notes on the Plan
2. No Deed Description to Date

Plan Prepared by: _____

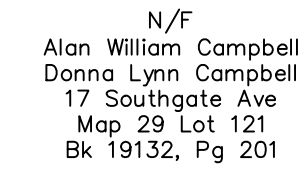
Jimmy C. Courbron PLS # 2532



 TERRADYN CONSULTANTS, LLC	ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 02460 PHONE: (207) 926-5111 WEB SITE: www.terradync consultants.com	Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting
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NOT FOR CONSTRUCTION

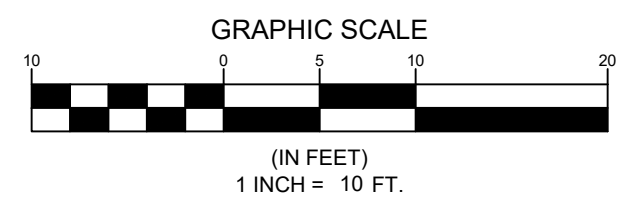
PROJECT: BERRY PARK EXPANSION 27-81 RAYMOND STREET, BIDDEFORD, ME	CLIENT: EVERYBODY LOVES RAYMOND ST, LP 17 SOUTH STREET, 3RD FLOOR PORTLAND, ME 04101
SHEET TITLE: EXISTING CONDITIONS & DEMOLITION PLAN	
DATE: 8/23/2023	
SCALE: 1" = 10'	
JOB NO: 20-68	
SHEET:	C-2.0

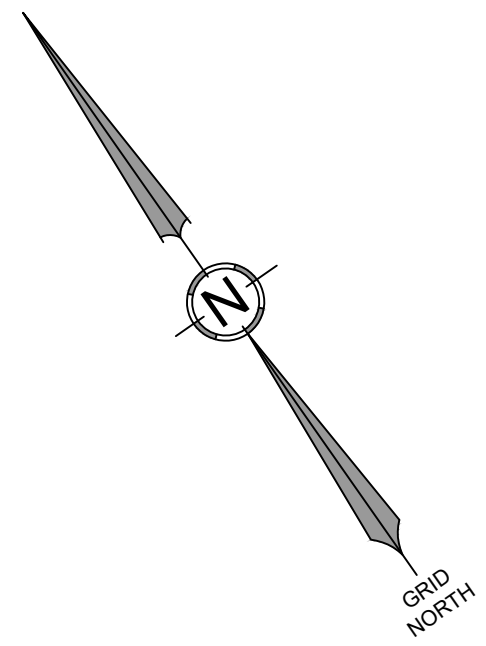


1. THE RECORD OWNER IS BERRY PARK APARTMENTS, LLC, WHOSE ADDRESS IS NORTLAND ENTERPRISES, LLC, ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE.
2. THE PROPERTY IS LOCATED ON RAYMOND STREET IN BIDDEFORD, MAINE. DESCRIBED AS LOT 108 ON CITY OF BIDDEFORD ASSESSOR'S TAX MAP 29 RESPECTIVELY.
3. TOTAL AREA OF PARCEL: 5.66 AC. +/-
4. SPACE AND BULK INFORMATION FOR RESIDENTIAL 2 DISTRICT ZONE:
TRADITIONAL SUBDIVISION:
MIN. LOT SIZE: 4,500 S.F.
MIN. STREET FRONTAGE: 45 FT
MIN. FRONT SETBACK: 25 FT
MIN. SIDE SETBACK: 5 FT
MIN. REAR SETBACK: 5 FT
MAX. LOT COVERAGE: 20%
MAX. BUILDING HEIGHT: 35 FT.
5. THE OUTER BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THIS PLAN IS BASED ON A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY OF LAND OF BERRY PARK APARTMENTS, LLC, 27-81 RAYMONS STREET, BIDDEFORD, YORK COUNTY, MAINE" BY CIVIL CONSULTANTS AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 348, PAGE 11.
6. TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ON THIS PLAN IS BASED ON A TOPOGRAPHIC SURVEY TERRADYN CONSULTANTS, LLC IN AUGUST, 2023 AND VARIOUS RECORDS FROM UTILITIES COMPANIES.

DATE _____

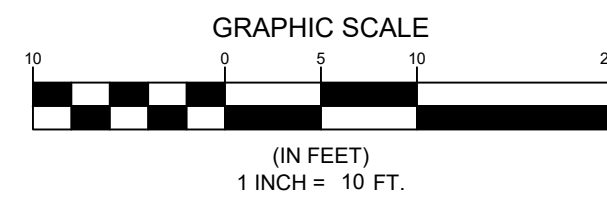
STATE OF MAINE	
YORK COUNTY REGISTRY OF DEEDS	
RECEIVED _____, 20____	
AT ____h ____m ____M. AND RECORDED IN	
PLAN BOOK _____ PAGE _____	
ATTEST _____	REGISTER



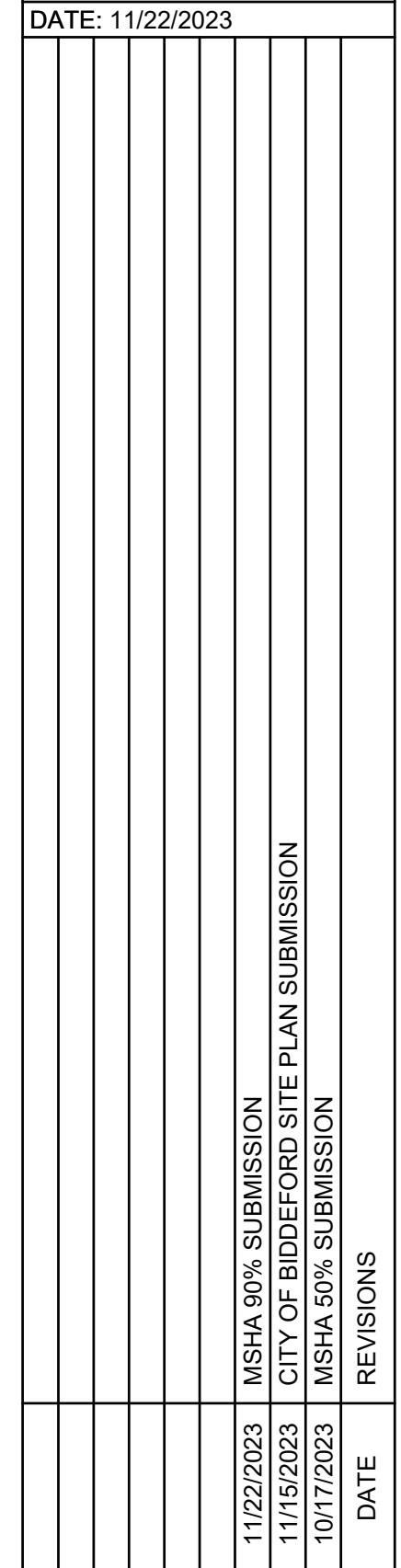


NAME	SIZE	LENGTH	SLOPE
SD-1	12"	20'	1.53%
SD-2	12"	47'	1.90%
SD-3	12"	66'	1.06%
SD-4	12"	40'	2.10%
SD-5	12"	64'	0.94%
SD-6	12"	6'	4.79%
SD-7	12"	10'	0.96%
SD-8	12"	5'	10.08%
SD-9	6"	5'	2.12%

1. CONTRACTOR SHALL PAVE UTILITY TRENCHES WITHIN RIGHT-OF-WAY WITHIN 3 DAYS OF EXCAVATION OR PRIOR TO ANY RAIN EVENT.
2. ESTIMATED CUT: 837 YARDS
3. ESTIMATED FILL: 216 YARDS
4. LIMIT OF DISTURBANCE: 0.80 ACRES
5. ADA PARKING SPACES & ACCESS AISLES SHALL BE LESS THAN 2% SLOPE IN ALL DIRECTIONS.



1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (DIAL 811) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. WATER SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF MAINE WATER.
3. SEWER SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE CITY OF BIDDEFORD.
4. ELECTRICAL SERVICE SHALL BE COORDINATED WITH CENTRAL MAINE POWER CO.



ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

urveying | Geomatics
| Environmental Permitting



PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:	BERRY PARK EXPANSION
	27-81 RAYMOND STREET, BIDDEFORD, ME
SHEET TITLE:	UTILITY PLAN
CLIENT:	EVERYBODY LOVES RAYMOND ST., LP
	17 SOUTH STREET, 3RD FLOOR PORTLAND, ME 04101
DATE:	8/23/2023
SCALE:	1" = 10'
JOB NO.:	20-68
SHEET:	

EROSION AND SEDIMENT CONTROL PLAN

PRE-CONSTRUCTION PHASE

A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 M.R.S.A. § 460-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE SITE MUST BE MAINTAINED TO PREVENT UNREASONABLE EROSION AND SEDIMENTATION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADED BUFFER AREAS TO THE EXTENT PRACTICABLE.

BMP CONSTRUCTION PHASE

A. SEDIMENT BARRIERS. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE EDGE OF ANY DOWNGRADED DISTURBED AREA AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE PROPOSED DISTURBED AREA. MAINTAIN THE SEDIMENT BARRIERS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

B. CONSTRUCTION ENTRANCE. PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE. TRACKED MUD OR SEDIMENT SHALL BE REMOVED PRIOR TO A STORM EVENT BY VACUUM SQUEEZING.

C. RIPRAP. SINCE RIPRAP IS USED WHERE EROSION POTENTIAL IS HIGH, CONSTRUCTION MUST BE SEQUENCED SO THAT THE RIPRAP IS PUT IN PLACE WITH THE MINIMUM DELAY. DISTURBANCE OF AREAS WHERE RIPRAP IS TO BE PLACED SHOULD BE UNDERTAKEN ONLY WHEN FINAL PREPARATION AND PLACEMENT OF THE RIPRAP CAN FOLLOW IMMEDIATELY BEHIND THE INITIAL DISTURBANCE. WHERE RIPRAP IS USED FOR OUTLET PROTECTION, THE RIPRAP SHOULD BE PLACED BEFORE OR IN CONJUNCTION WITH THE CONSTRUCTION OF THE PIPE OR CHANNEL SO THAT IT IS IN PLACE WHEN THE PIPE OR CHANNEL BEGINS TO OPERATE. MAINTAIN TEMPORARY RIPRAP, SUCH AS TEMPORARY CHECK DAMS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

D. TEMPORARY STABILIZATION. STABILIZE WITH TEMPORARY SEEDING, MULCH, OR OTHER NON-ERODABLE COVER ANY EXPOSED SOILS THAT WILL REMAIN UNWORKED FOR MORE THAN 14 DAYS EXCEPT. STABILIZE AREAS WITHIN 100 FEET OF A WETLAND OR WATERBODY WITHIN 7 DAYS OR PRIOR TO A PREDICTED STORM EVENT, WHICHEVER COMES FIRST. IF HAY OR STRAW MULCH IS USED, THE APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SF OR 1.5 TO 2 TONS (80-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. HAY MULCH MUST BE KEPT MOIST OR ANCHORED TO PREVENT WIND BLOWING. AN EROSION CONTROL BLANKET OR MAT SHALL BE USED AT THE BASE OF GRASSSED WATERWAYS, STEEP SLOPES (15% OR GREATER) AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF EARLY STREAMS AND WETLANDS. GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTHS OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE SECOND PHASE, AND SO ON.

E. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX SHOULD BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH SUCH AS FLY ASH OR YARD SCRAPING. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX. THE MIX COMPOSITION SHOULD MEET THE FOLLOWING STANDARDS:

- THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 80% AND 100% DRY WEIGHT BASIS.
- PARTICLE SIZE BY WEIGHT SHOULD BE 100% PASSING A 6" SCREEN AND 70% TO 85% PASSING A 0.75" SCREEN
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
- SOLUBLE SALTS CONTENT SHALL BE <4.0 MM/HOS/CM
- THE pH SHALL BE BETWEEN 5.0 AND 8.0

F. VEGETATED WATERWAY. UPON FINAL GRADING, THE DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED TO PERMANENT VEGETATION AND MULCHED AND WILL NOT BE USED AS OUTLETS UNTIL A DENSE, VIGOROUS VEGETATIVE COVER HAS BEEN OBTAINED. ONCE SOIL IS EXPOSED FOR WATERWAY CONSTRUCTION, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. VEGETATED WATERWAYS NEED TO BE STABILIZED EARLY DURING THE GROWING SEASON (PRIOR TO SEPTEMBER 15). IF FINAL SEEDING OF WATERWAYS IS DELAYED PAST SEPTEMBER 15, EMERGENCY PROVISIONS SUCH AS SOD OR RIPRAP MAY BE REQUIRED TO STABILIZE THE CHANNEL. WATERWAYS SHOULD BE FULLY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

PERMANENT STABILIZATION DEFINED

A. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS AN 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

D. RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

E. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

F. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

G. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPINGS OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN-CUTTINGS OF THE CHANNEL.

GENERAL CONSTRUCTION PHASE

THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT.

A. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 POUNDS/1,000 SF AND MULCHED, AND REUSED AS REQUIRED. SILT FENCING SHALL BE PLACED DOWN GRADIENT FROM THE STOCKPILED SOAM. STOCKPILE TO BE LOCATED BY DESIGNATION OF THE OWNER AND INSPECTING ENGINEER.

B. THE INSPECTING ENGINEER AT HIS/HER DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTING ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

C. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

D. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.

E. ALL EROSION, AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

F. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.

G. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.

H. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

I. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.

J. EXCEPT FOR APPROVED LANDFILLS OR NON-STRUCTURAL FILLS, FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

K. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS.

L. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

M. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY.

N. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

O. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS OBTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

PERMANENT VEGETATION

PERMANENT VEGETATIVE COVER SHOULD BE ESTABLISHED ON DISTURBED AREAS WHERE PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE ENVIRONMENT.

SEEDING PREPARATION

A. GRADE AS FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.

B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P20S-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQ. FT.).

C. WORK LINE AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

E. INSPECT SEEDED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

F. PERMANENT SEEDING SHOULD BE MADE 45 DAYS PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING WITH MULCH AFTER THE FIRST KILLING FROST AND BEFORE SNOWFALL. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY MULCHING BMP AND OVERWINTER STABILIZATION AND CONSTRUCTION TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

G. FOLLOWING SEED BED PREPARATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS/1,000 S.F. WITH A MIXTURE OF 35% CREEPING RED FESCUE, 6% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

I. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

J. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

WINTER CONSTRUCTION PHASE

IF AN AREA IS NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES.

A. PERMANENT STABILIZATION CONSISTS OF AT LEAST 90% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

B. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.

C. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

D. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR ALL SLOPES GREATER THAN 8 % OR OTHER AREAS EXPOSED TO DIRECT WIND.

E. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGEWAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3 %.

F. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

G. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SO THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

H. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

I. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

J. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THAT SAME DAY.

K. IF SNOWFALL IS GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

L. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

M. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

N. EROSION CONTROL MUST BE INSPECTED AFTER EACH RAINFALL, SNOW STORM, OR THAWING EVENT AND AT LEAST ONCE A WEEK BETWEEN NOVEMBER 15 AND APRIL 15.

MAINTENANCE AND INSPECTION PHASE

A. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

B. A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATIONS OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

DEWATERING

A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADED EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE.

GOOD HOUSEKEEPING NOTES:

1. **SPILL PREVENTION.** CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-462-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : [HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/](http://www.maine.gov/DEP/SPILLS/EMERGSPILLRESP/)

2. **GROUNDWATER PROTECTION.** DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL, DIKES, BERMS, SUMPS, AND OTHER FORMS OF SEDIMENTATION. CONTAMINANT PREVENTION MEASURES MUST BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

SEE MAINE DEP CHAPTER 500 APPENDIX D FOR LICENSE BY RULE STANDARDS FOR INFILTRATION OF STORMWATER.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPs) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. **FUGITIVE SEDIMENT AND DUST.** ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. **DEBRIS AND OTHER MATERIALS.** MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISIONS OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING BUT NOT LIMITED TO: THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. **EXCAVATION DE-WATERING.** EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDING AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPs, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

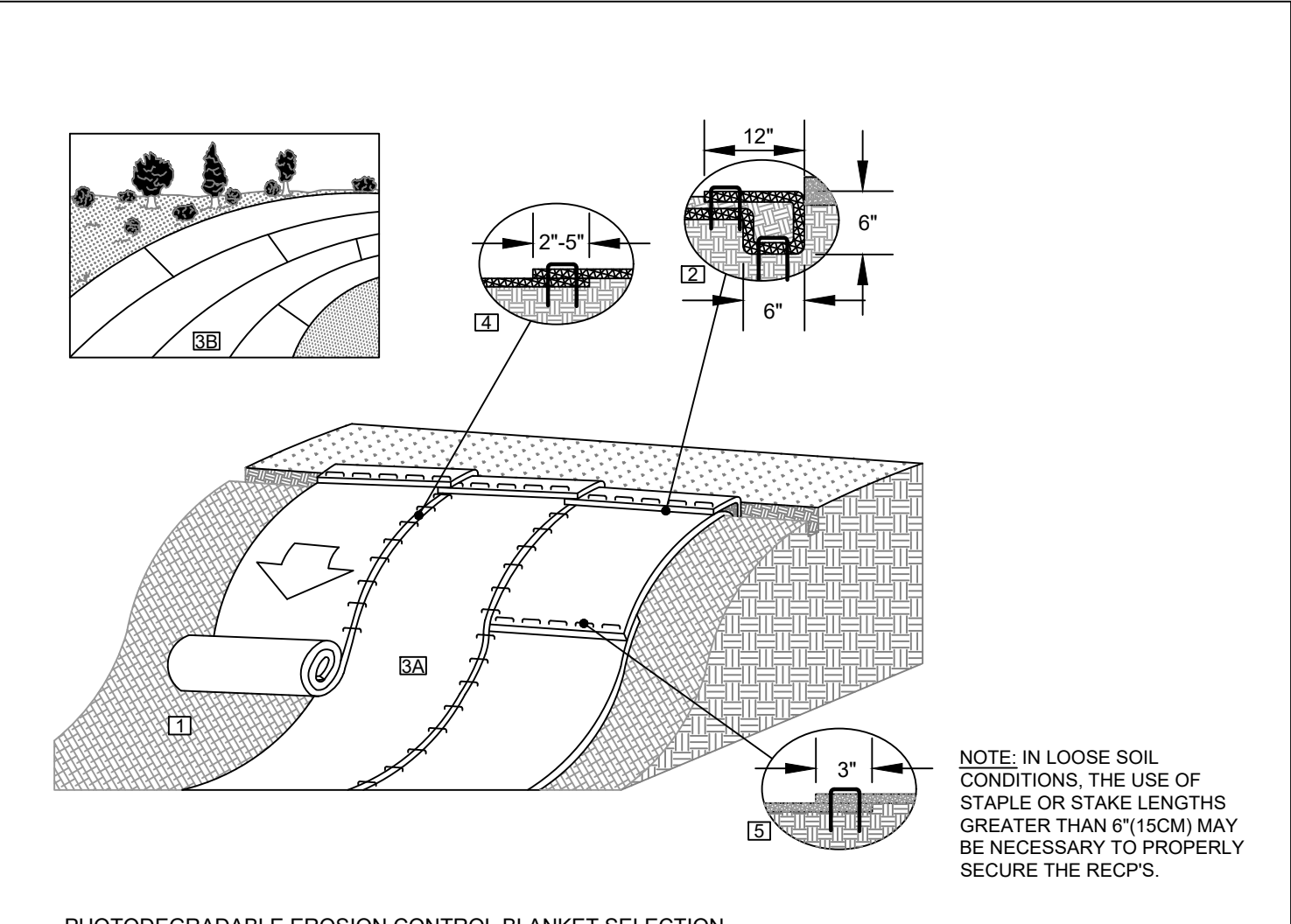
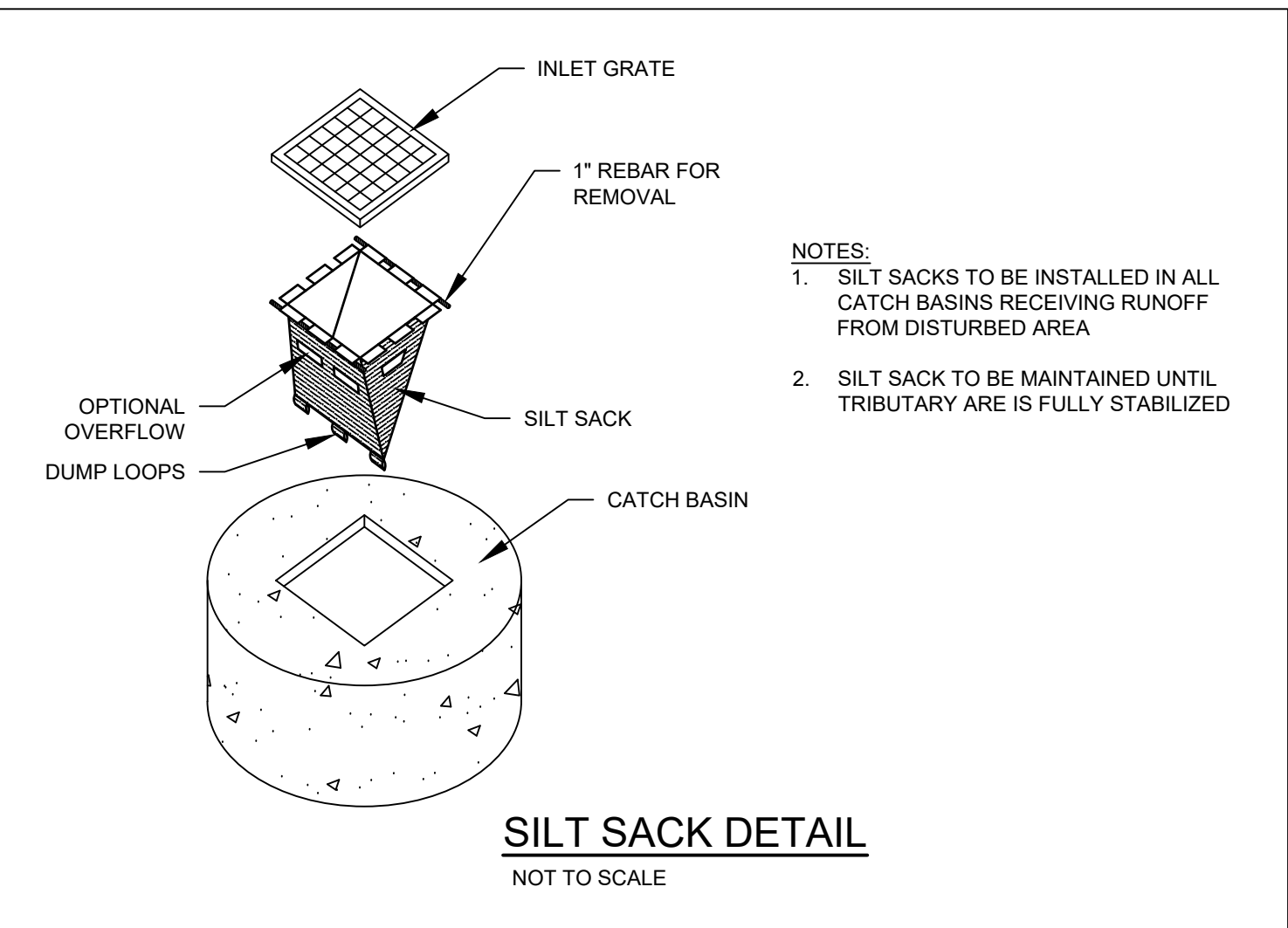
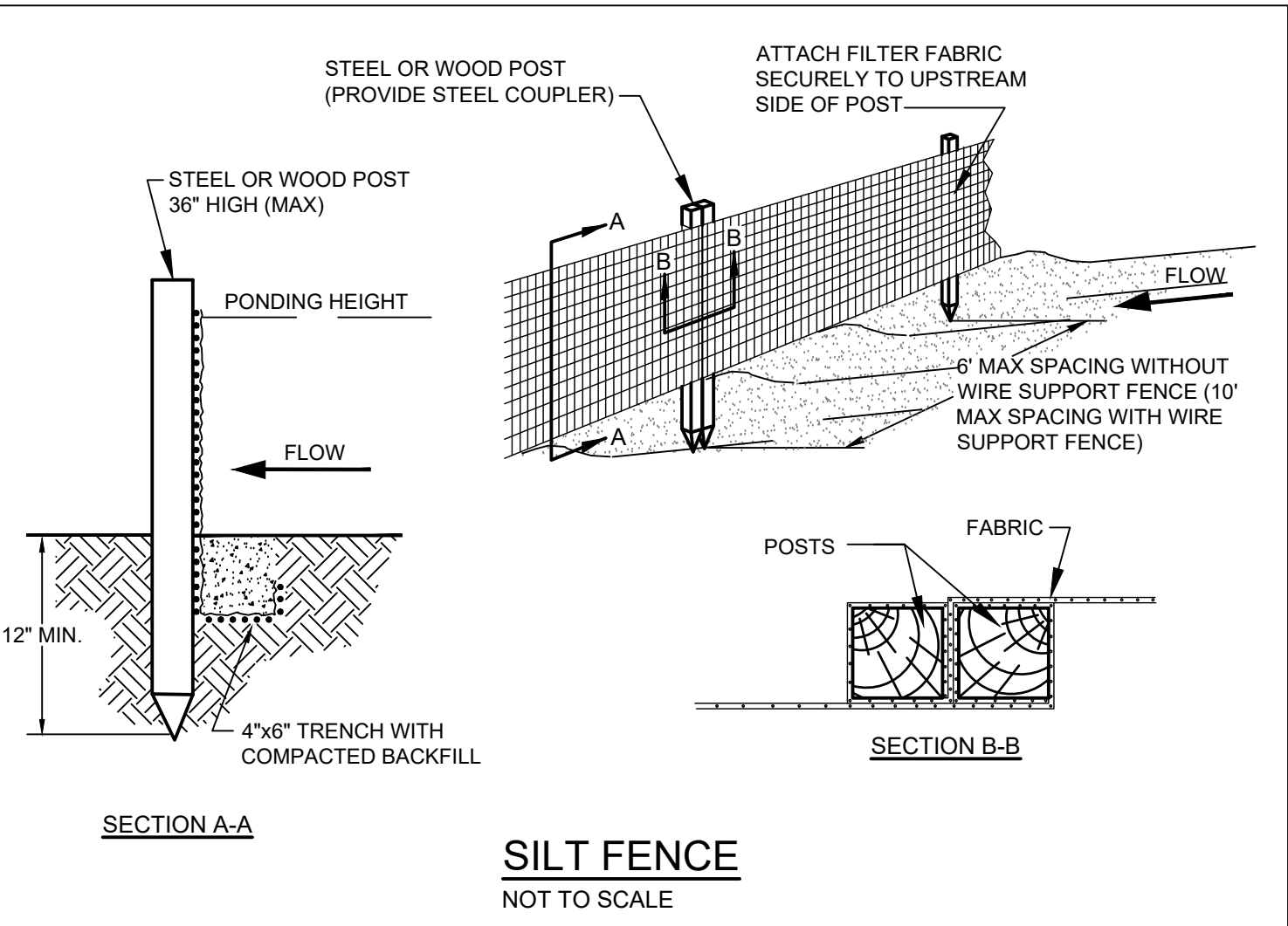
6. **AUTHORIZED NON-STORMWATER DISCHARGES.** IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES, WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

- (a) DISCHARGES FROM FIREFIGHTING ACTIVITY;
- (b) FIRE HYDRANT FLUSHINGS;
- (c) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
- (d) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX C(3);
- (e) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- (f) WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED AND EQUIPMENT ARE NOT USED);
- (g) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
- (h) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- (i) FOUNDATION OR FOOTER DRAINWATER WHERE FLOWS ARE NOT CONTAMINATED;
- (j) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
- (k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
- (l) LANDSCAPE IRRIGATION.

7. **UNAUTHORIZED NON-STORMWATER DISCHARGES.** THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE: A DISCHARGE THAT IS IDENTIFIED AS A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- (a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- (b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- (c) SOAPS, SOLVENTS, AND EQUIPMENT FLUSHINGS;
- (d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

8. **ADDITIONAL REQUIREMENTS.** ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



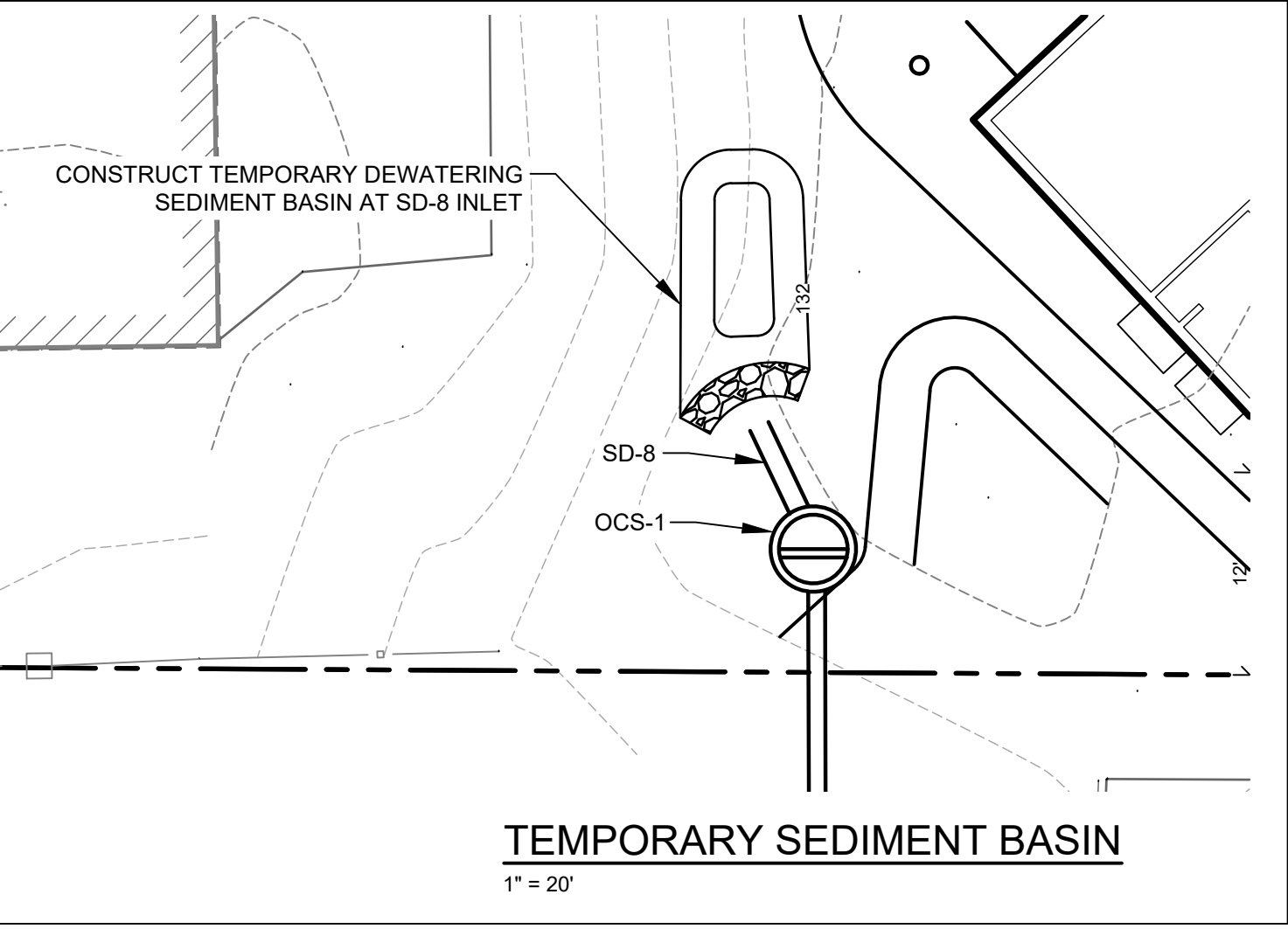
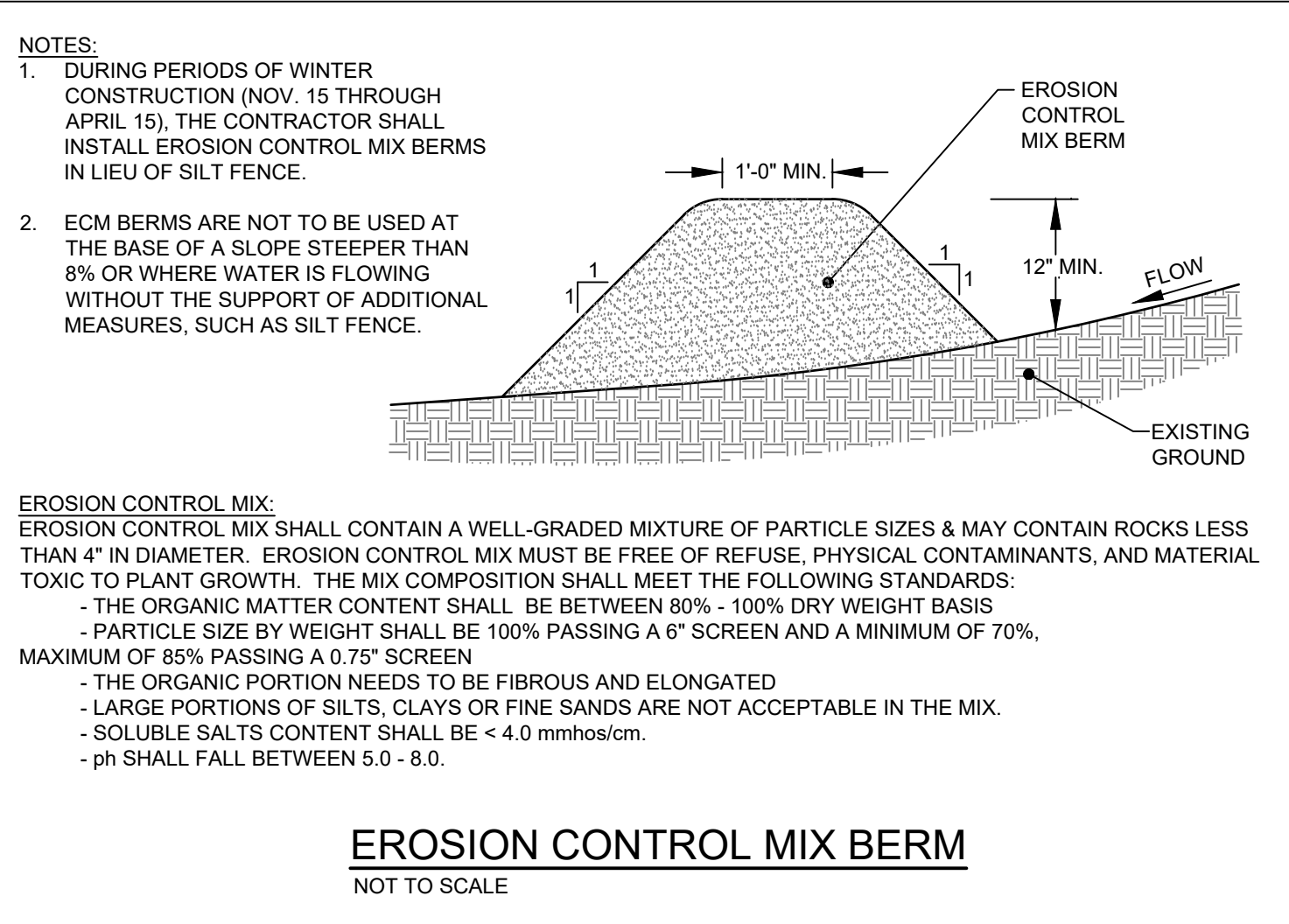
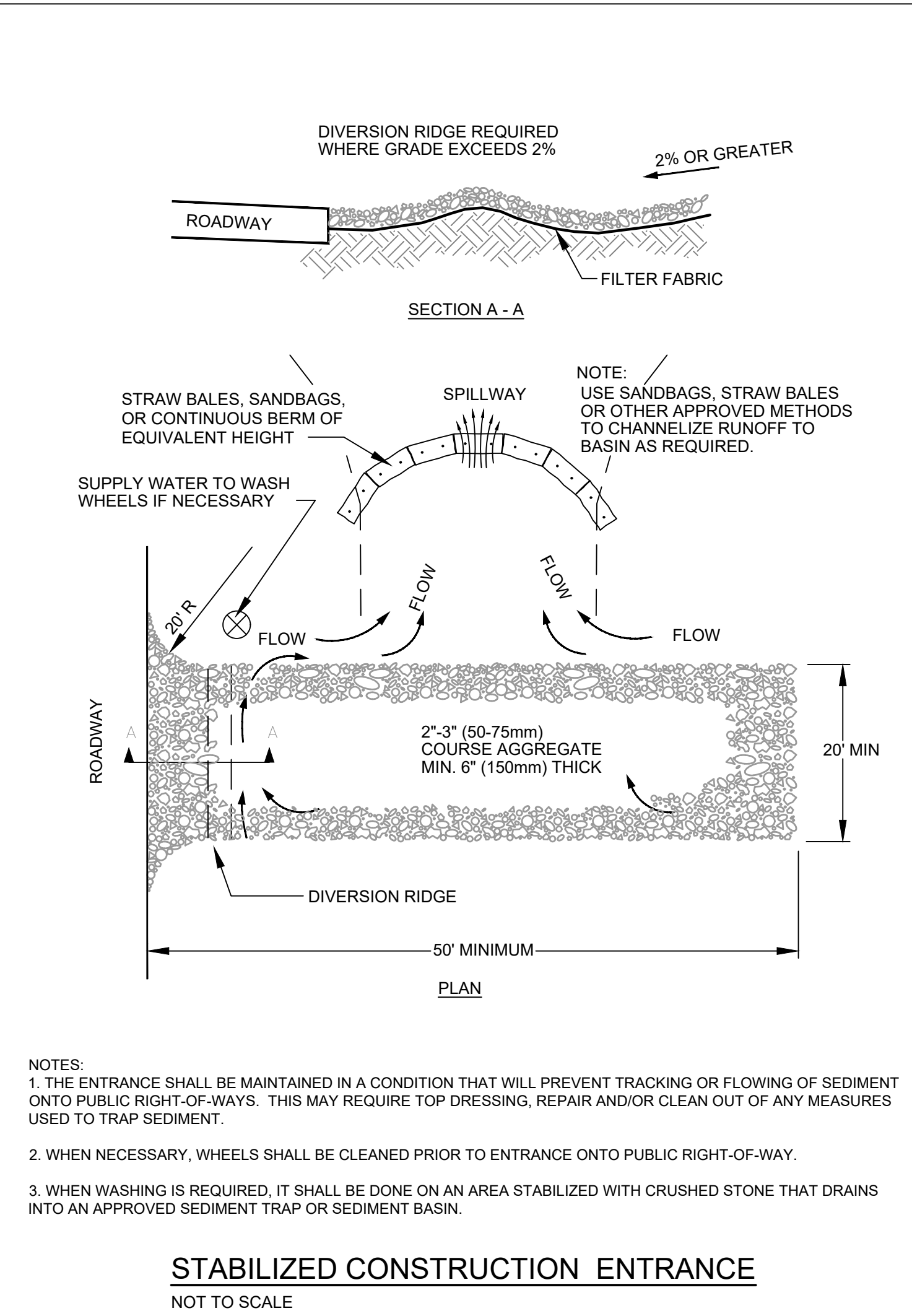
6:1 > 3:1 SLOPES	3:1 > 2:1 SLOPES	≥2:1 SLOPES	
NA GREEN DS75	NA GREEN S150	NA GREEN SC150	PERMANENT TURF REINFORCEMENT IF THE PLAN CALLS FOR PERMANENT TURF REINFORCEMENT, USE NORTH AMERICAN GREEN VMAX SC250

NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPs BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
3. ROLL THE RECPs (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPs TYPE.
5. CONSECUTIVE RECPs SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.

EROSION CONTROL FABRIC SLOPE INSTALLATION

NOT TO SCALE



DATE: 11/22/2023

REVISIONS	DATE	REVISIONS
1	11/22/2023	MSHA 90% SUBMISSION
2	11/15/2023	CITY OF BIDDEFORD SITE PLAN SUBMISSION
3	10/17/2023	MSHA 50% SUBMISSION
NO		

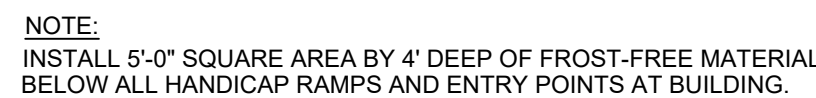
ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260	PHONE: (207) 926-5111	WEB SITE: www.terradynconsultants.com
TERRADYN CONSULTANTS, LLC		
Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting		

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NOT FOR CONSTRUCTION

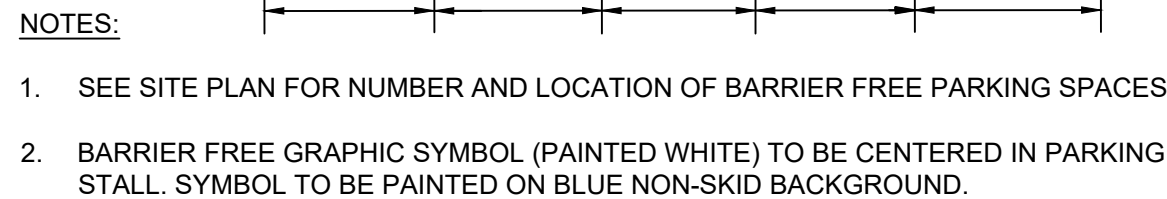
PROJECT: BERRY PARK EXPANSION 27-81 RAYMOND STREET, BIDDEFORD, ME	SHEET TITLE: EROSION CONTROL NOTES & DETAILS	CLIENT: EVERYBODY LOVES RAYMOND ST, LP 17 SOUTH STREET, 3RD FLOOR PORTLAND, ME 04101
DATE: 8/23/2023	SCALE: AS NOTED	JOB NO: 20-68
SHEET: C-6.0		



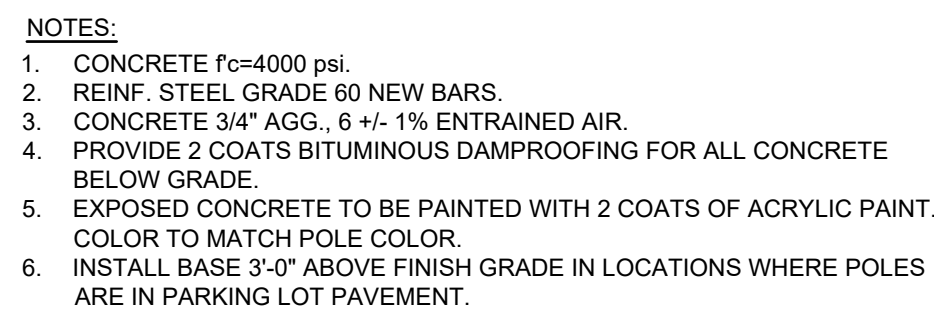
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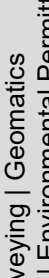
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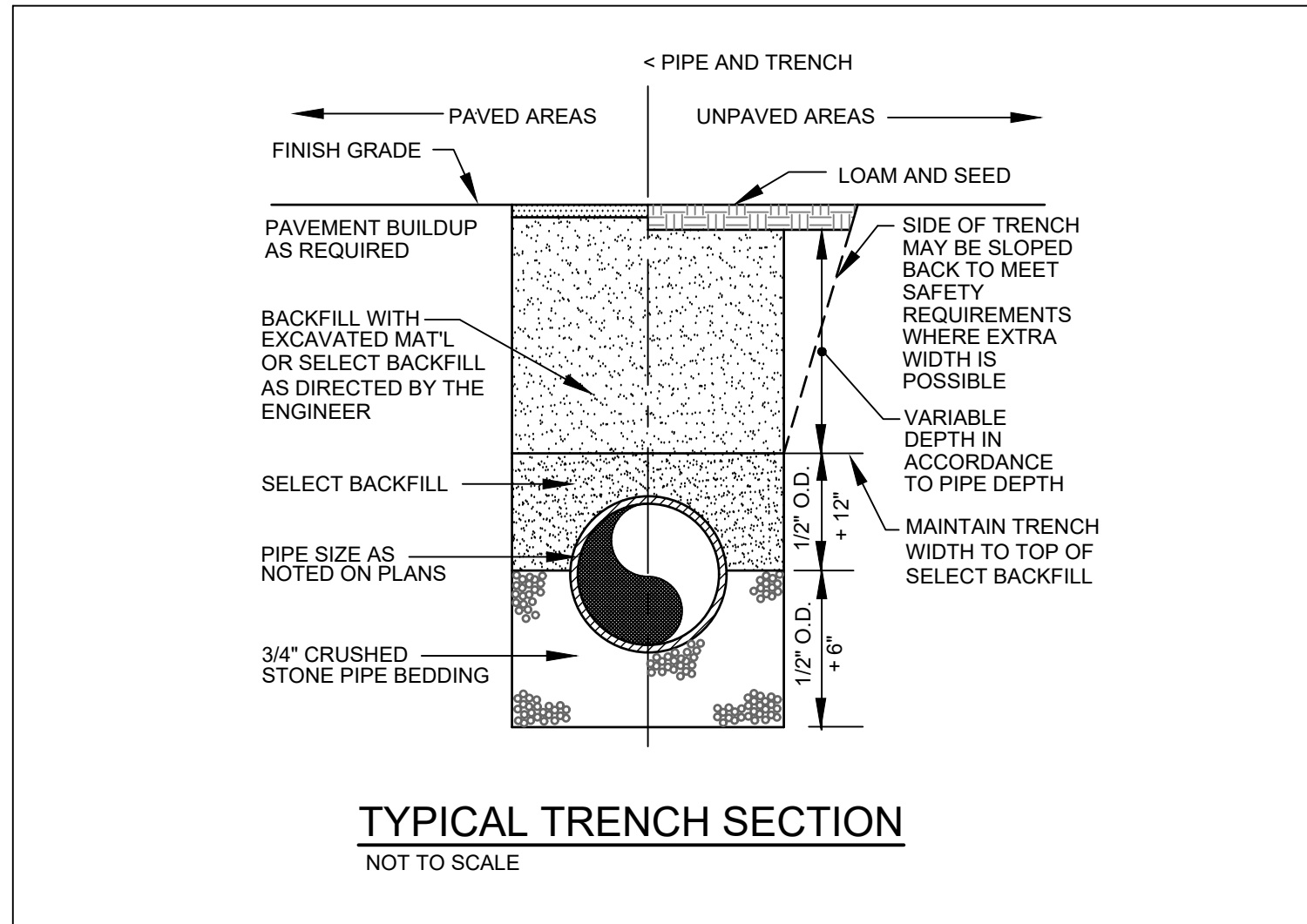
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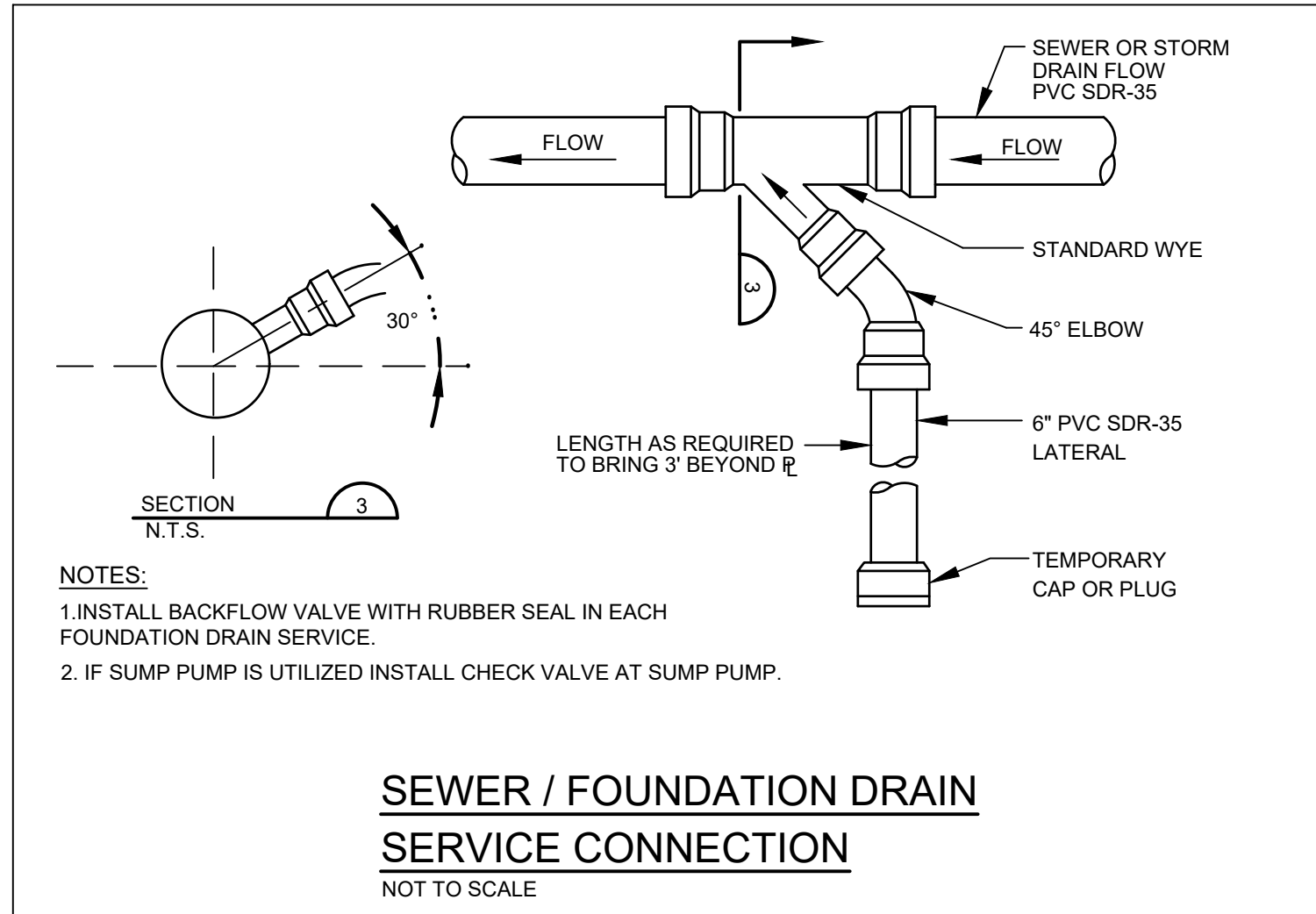
NOT TO SCALE

	ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260 PHONE: (207) 926-5111 WEB SITE: www.terradynconsultants.com	Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting
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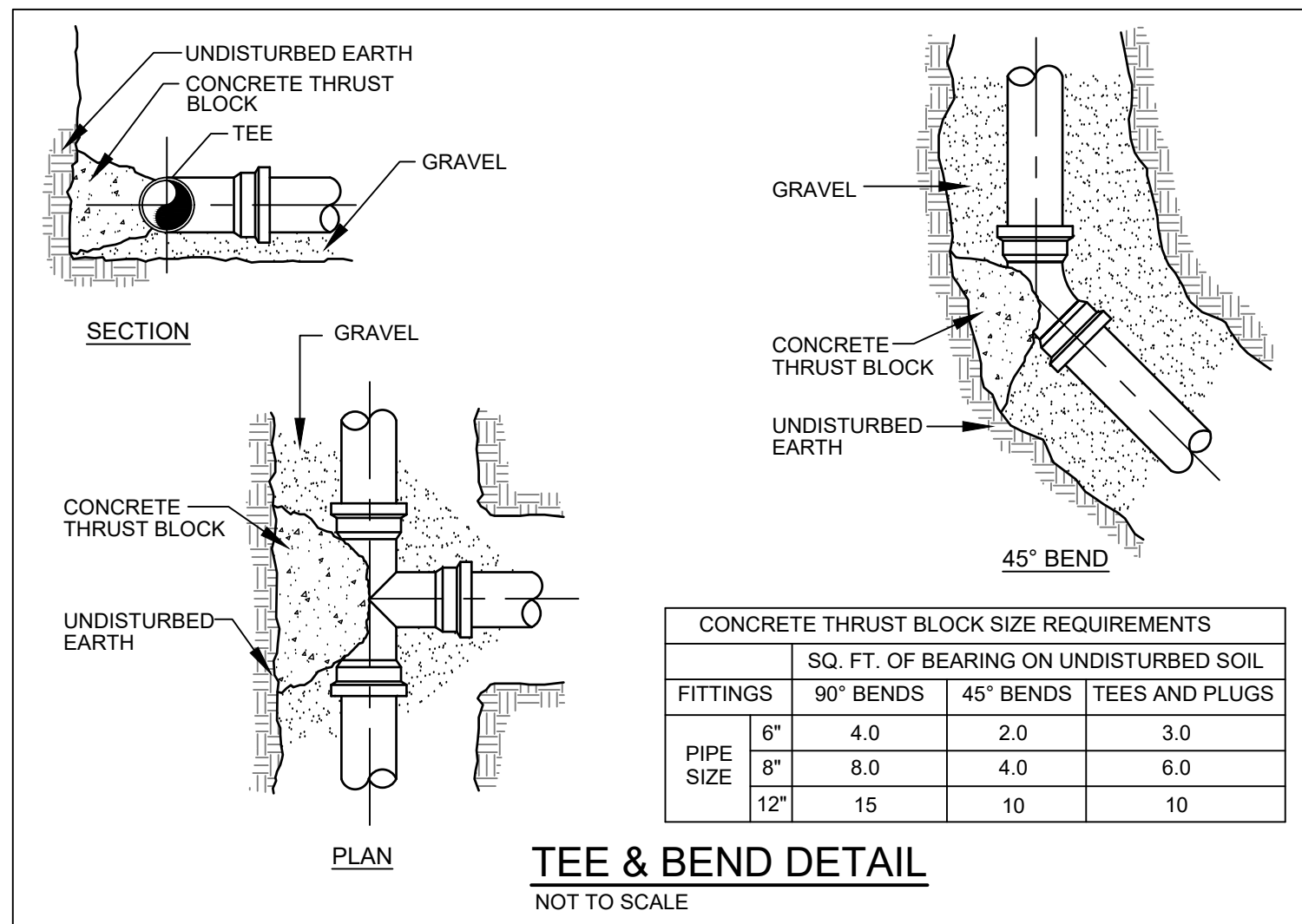
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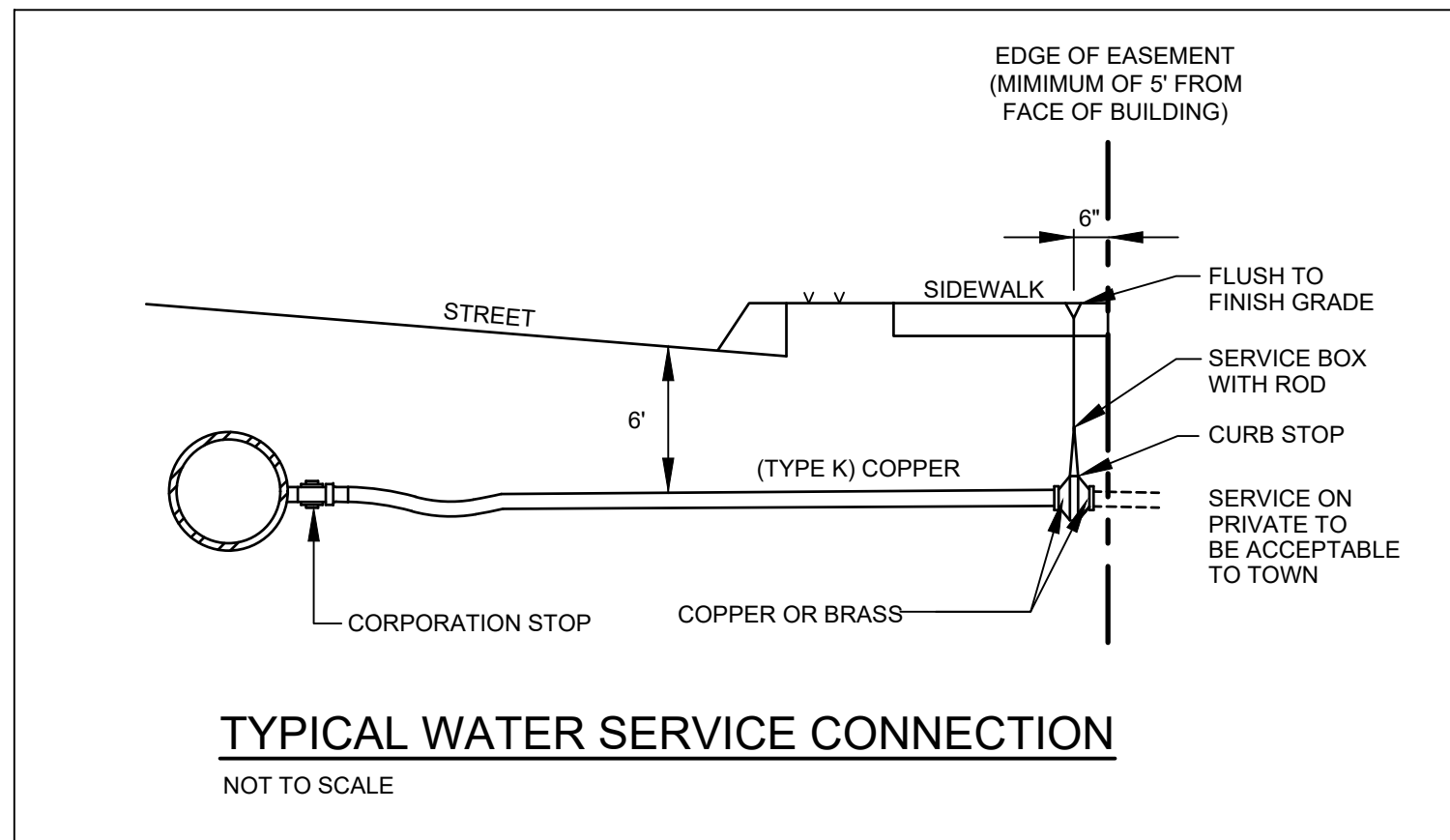
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NOT TO SCALE



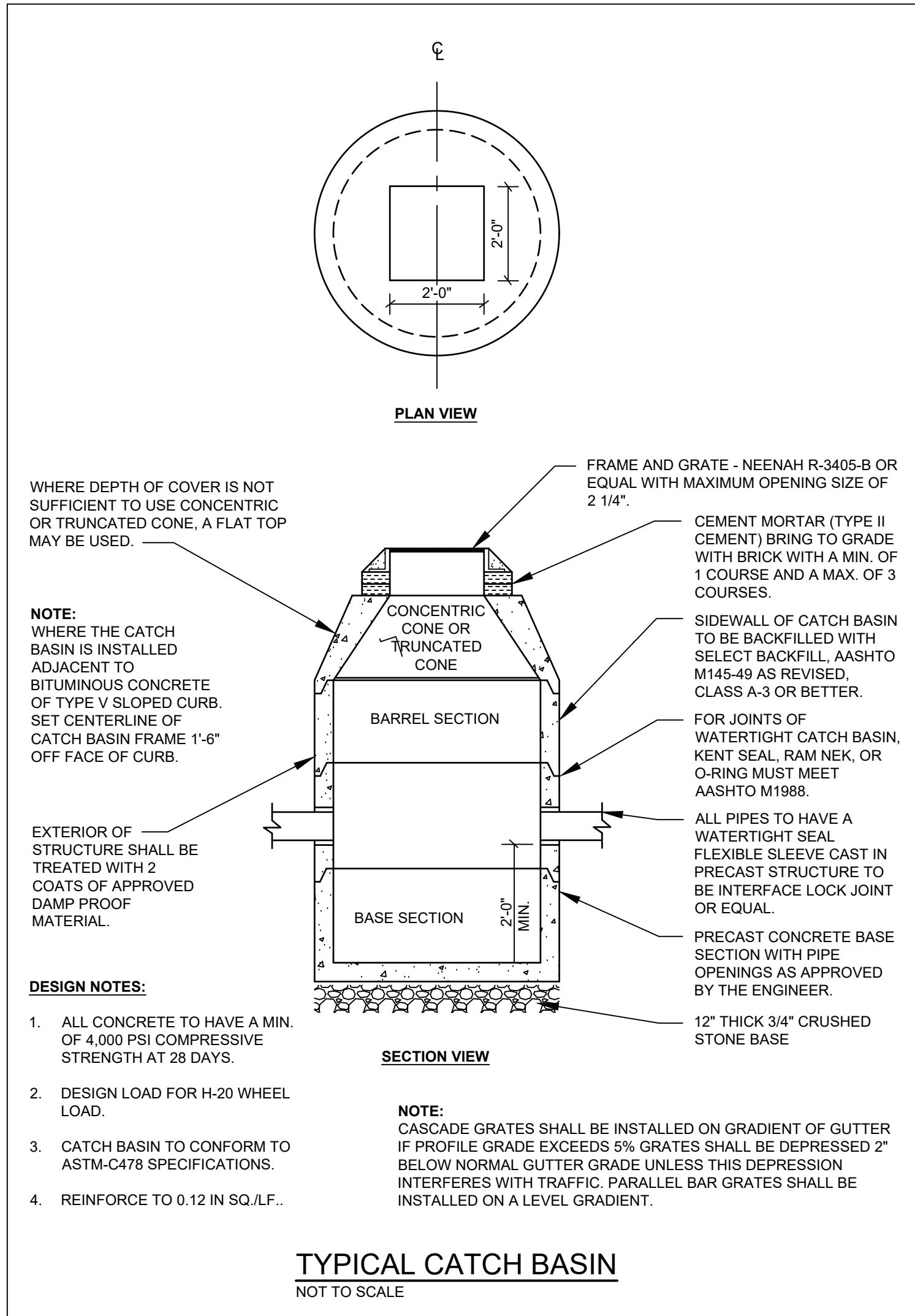
SEWER / FOUNDATION DRAIN SERVICE CONNECTION
NOT TO SCALE



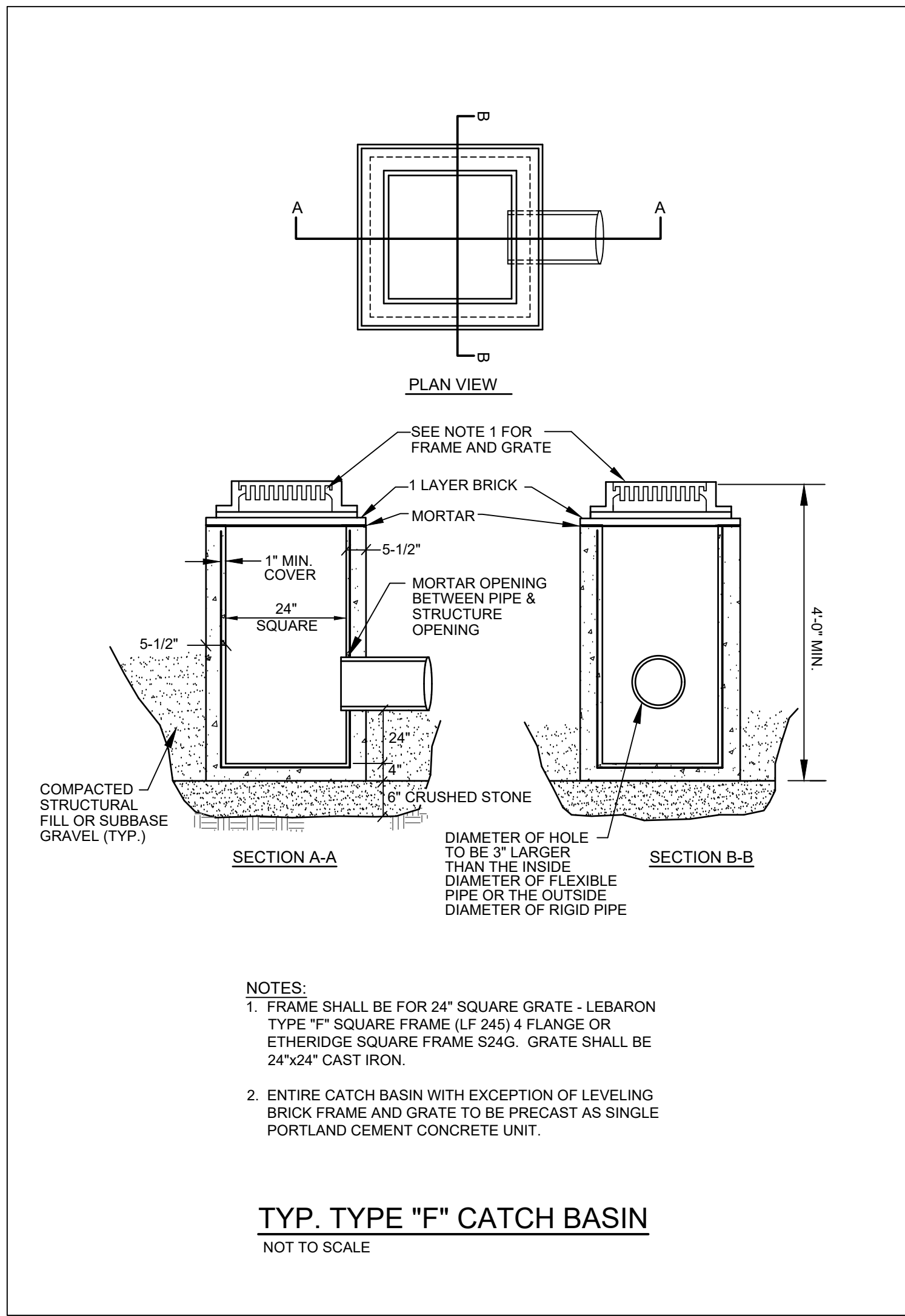
TEE & BEND DETAIL
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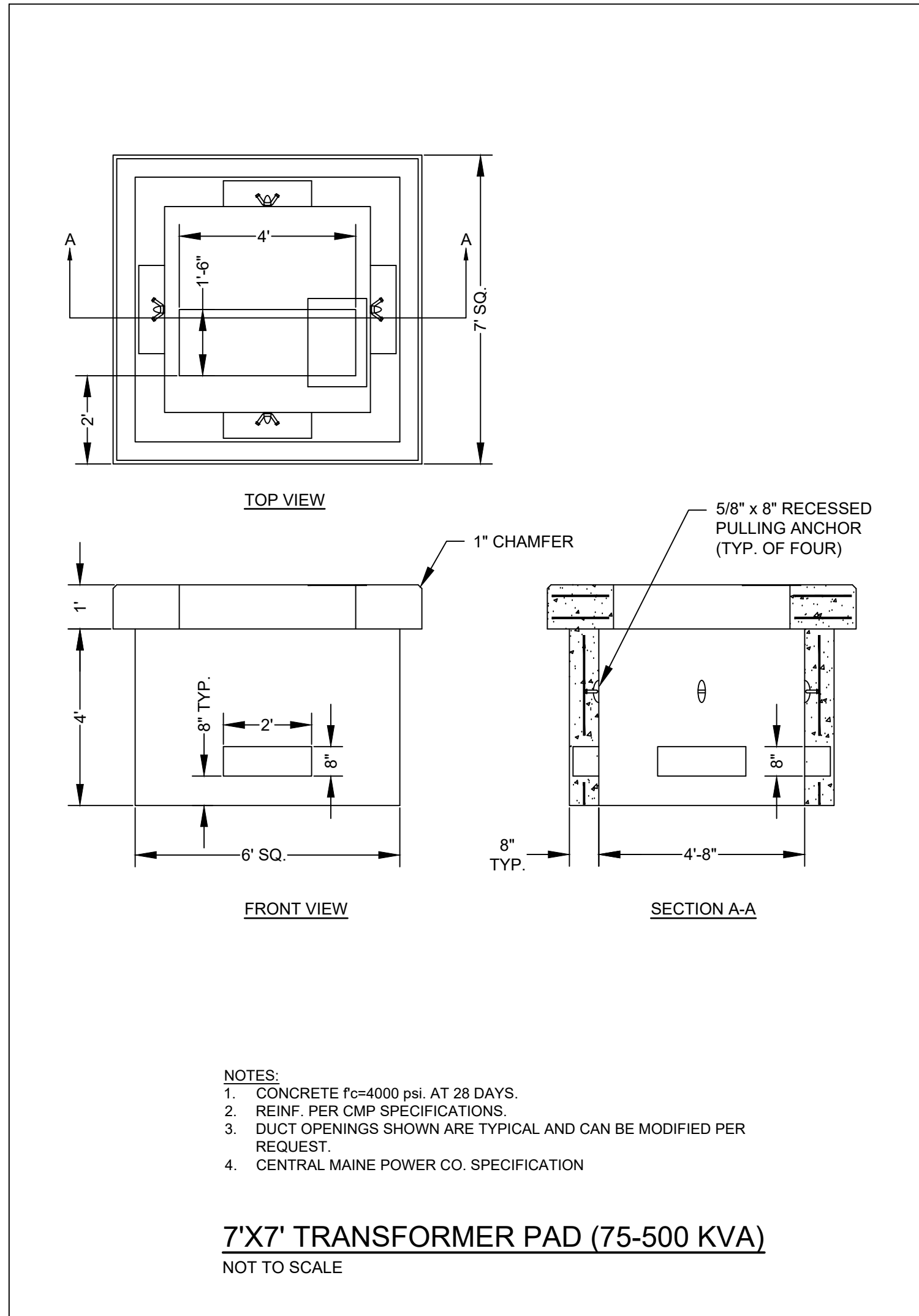
TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



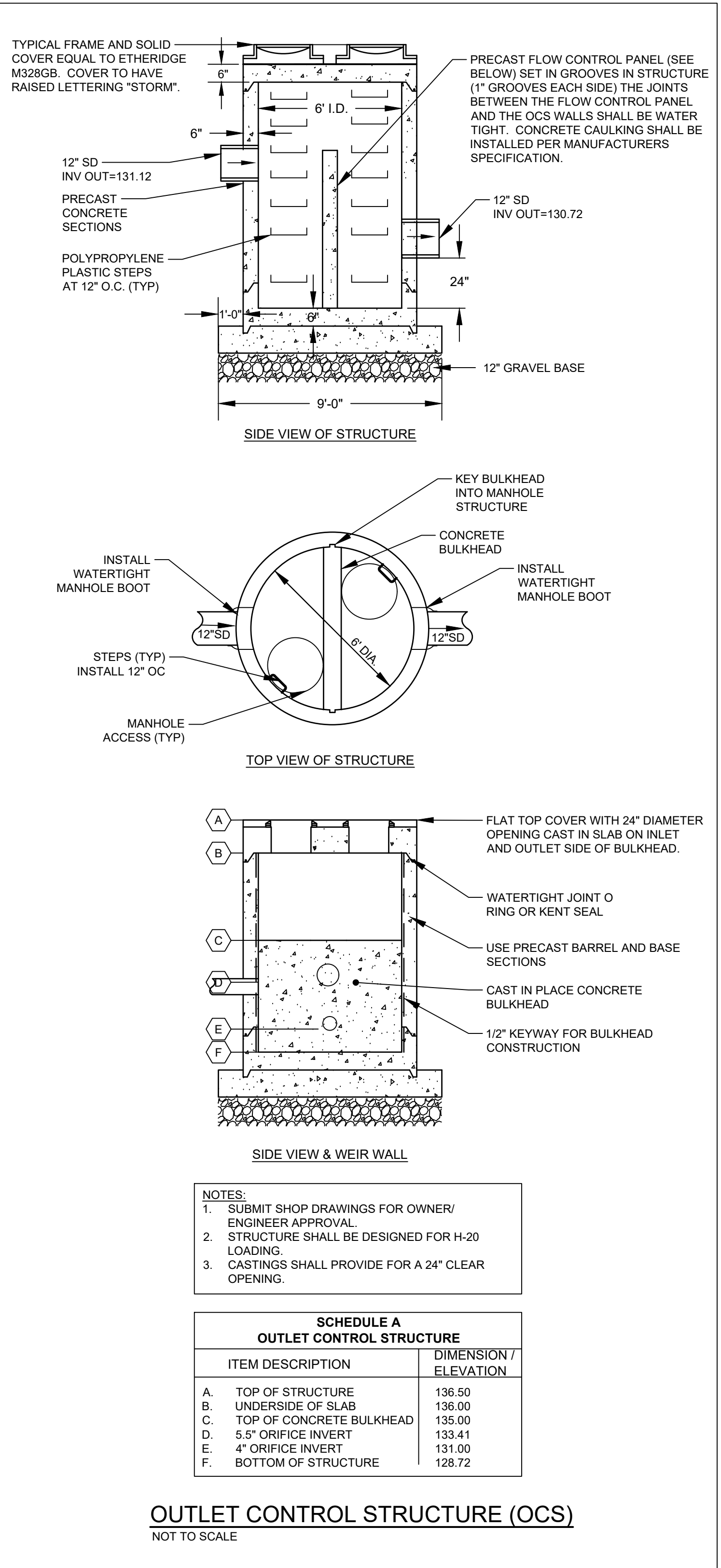
TYPICAL CATCH BASIN
NOT TO SCALE



TYP. TYPE "F" CATCH BASIN
NOT TO SCALE



7'X7' TRANSFORMER PAD (75-500 KVA)
NOT TO SCALE



OUTLET CONTROL STRUCTURE (OCS)
NOT TO SCALE

FOR R-TANK DETAILS SEE DETAILS FROM FERGUSON WATERWORKS

DATE: 11/22/2023

NO.	REVISIONS	DATE
1	NO.	
2		
3		

PROJECT: **BERRY PARK EXPANSION**
27-81 RAYMOND STREET, BIDDEFORD, ME

SHEET TITLE: **UTILITY DETAILS**

CLIENT: **EVERYBODY LOVES RAYMOND ST, LP**
17 SOUTH STREET, 3RD FLOOR
PORTLAND, ME 04101

ADDRESS: 41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE: (207) 926-5111

WEB SITE: www.terradynconsultants.com

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DATE: 8/23/2023

SCALE: AS NOTED

JOB NO: 20-68

SHEET: **C-6.2**



VIPER Area/Site

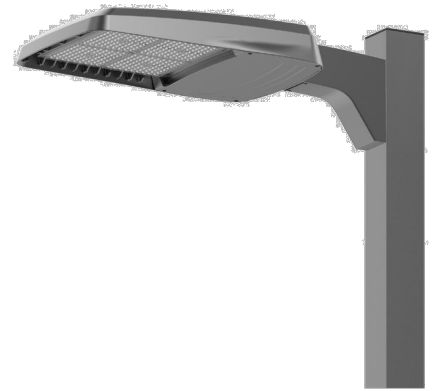
VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

MICROSTRIKE STRIKE



10-DAY QUICK SHIP PROGRAM



FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 15G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY

NX LIGHTING CONTROLS™

wiSCAPE™

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs, which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3

- Both optics maximize target zone illumination with minimal losses at the house-side reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole

- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (AGU) or accessory for square and round poles
- All mounting hardware included

INSTALLATION (CONTINUED)

- Knuckle arm filter option available for 2-3/8" O.D. 10mm
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD

- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3. Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor, programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application

- 7-pin ANSI C136-61-2013 photocell receptacle option available for twist lock photocells or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0-10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6' standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration
- wiSCAPE™ available with in fixture wireless control module, features dimming and occupancy sensor

CERTIFICATIONS

- DLC® Designlights Consortium. Qualified, with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2 #250-24 for wet locations and 40°C ambient temperatures
- 15 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt

This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	5,000-80,000
Wattage Range	36-600
Efficacy Range (LPW)	92-155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

Page 1 of 10

Rev 03/19/23

BEA VIPER SPEC_R04

currentlighting.com/beacon

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GEOPAK SERIES 1

SIZE 1 - TRPI/GSP/RDIT

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

GEOPAK™



FEATURES

- GeoPak Series consists of three compact Geometric wall-pack shapes in four popular finishes
- 24 mid-power LEDs create 3115 lumens in AC and 1628 lumens in emergency mode
- Environmentally friendly, long-life Lithium Iron Phosphate battery
- Standard Battery Temperature Range: 0°C to 40°C, Optional Heater: -30°C to 40°C
- Zero uplight distributions



SPECIFICATIONS

CONSTRUCTION

- Housing is made from die-cast aluminum with a hinged back-plate for ease of installation and maintenance
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.
- Wet Location Listed to UL524 and UL1598 Standard

OPTICS

- 24 mid power LEDs delivering up to 3,000 lumens
- Up to 118 lumens per watt
- Type III and IV distributions for a wide variety of applications
- Zero uplight (UO), dark sky, neighbor friendly

INSTALLATION

- Universal plate for mounting to standard 3/12" and 4" square electrical boxes. All connections are made from connections at the rear of the unit
- Optional back-box accessory available for surface conduit application.

ELECTRICAL

- 120-277 and 347-480V operation, 50/60Hz
- 0-10V dimming driver standard. Dimming leads are extended from the product.
- 10kA surge protector
- Photocell and occupancy sensor options available for complete on/off and dimming control

- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Includes a long-life Lithium Iron Phosphate battery with optional battery heater for cold temperature application
- Ambient operating temperature -40°C to 40°C
- Button photocell is suitable for 120-277V operation

- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Drivers IP65 and RoHS compliant
- Listed to UL1598 and CSAC22.2 #250-24 for wet location
- 10kA surge protector

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	1720-2896
Wattage Range	15-25
Efficacy Range (LPW)	107-131
Weights lbs. (kg)	10.5-11.5 (4.8-5.2)

Page 1 of 6

Rev 10/02/22

Geopak TRPI GSP RDIT SpecSheet_R01

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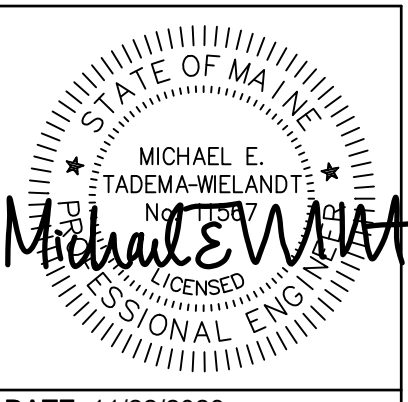
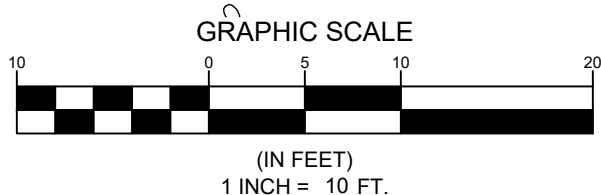
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Current



LIGHT FIXTURE TABLE

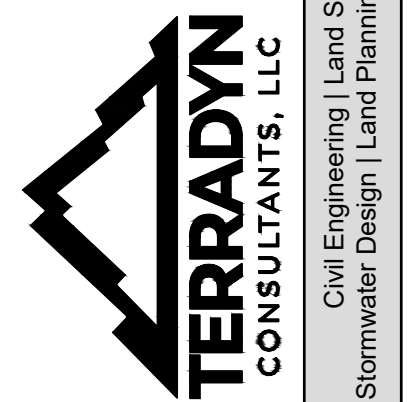
LABEL	LIGHT FIXTURE	MANUFACTURER	MANUFACTURERS ID	LUMENS	NUMBER OF LIGHTS	MOUNTING HEIGHT	MOUNTING LOCATION
A	VIPER MICRO STRIKE	BEACON	VP-1-160L-75-3K7-4W-BC	6,192	3	16'	POLE
B	GEOPAK	BEACON	GEO1-24L-3K7-4W-E-EH	1,807	6	8'	WALL
C	LED LIGHT BULB	PHILIPS	LEDBULB_60W_E27_A19_830_FR	800	6	6	WALL



DATE: 11/22/2023

NO.	REVISIONS	DATE
1	MSHA 50% SUBMISSION	10/17/2023
2	CITY OF BIDDEFORD SITE PLAN SUBMISSION	11/15/2023
3	MSHA 90% SUBMISSION	11/22/2023

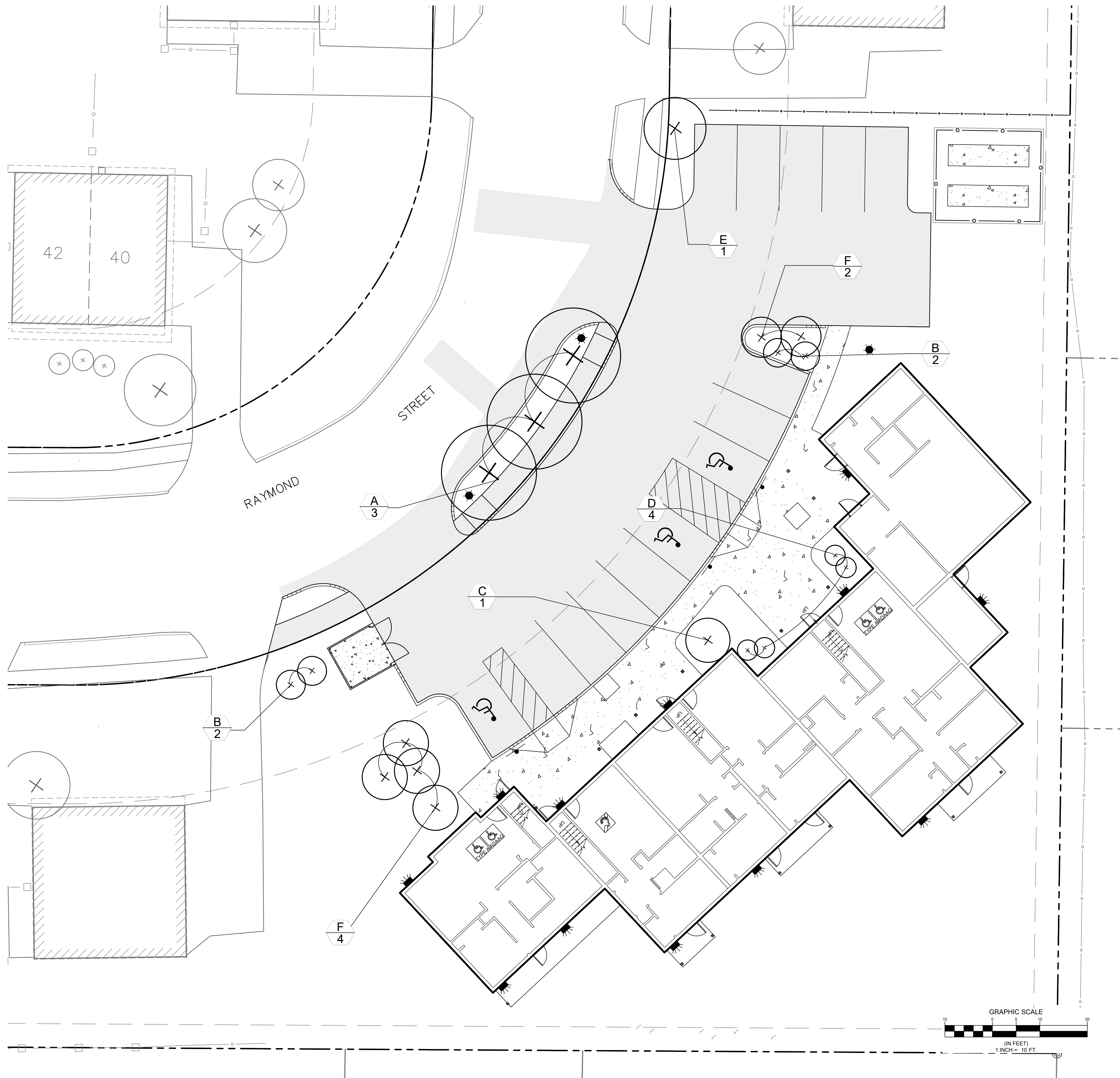
ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260	PHONE: (207) 926-5111	WEB SITE: www.terradynconsultants.com
Civil Engineering Land Surveying Geomatics Stormwater Design Land Planning Environmental Permitting		



PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: BERRY PARK EXPANSION 27-81 RAYMOND STREET, BIDDEFORD, ME	SHEET TITLE: PHOTOMETRIC PLAN	CLIENT: EVERYBODY LOVES RAYMOND ST, LP 17 SOUTH STREET, 3RD FLOOR PORTLAND, ME 04101
DATE: 8/23/2023	SCALE: 1" = 10'	JOB NO: 20-68
SHEET: C-7.0		

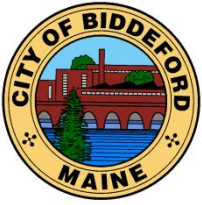
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BERRY PARK APARTMENTS

BIDDEFORD, MAINE

[illegible]



CITY OF BIDDEFORD

Planning and Development Department

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115

Planning Board – Staff Report

David.Galbraith@biddefordmaine.org

TO: Chair Patoine and Members of the Biddeford Planning Board

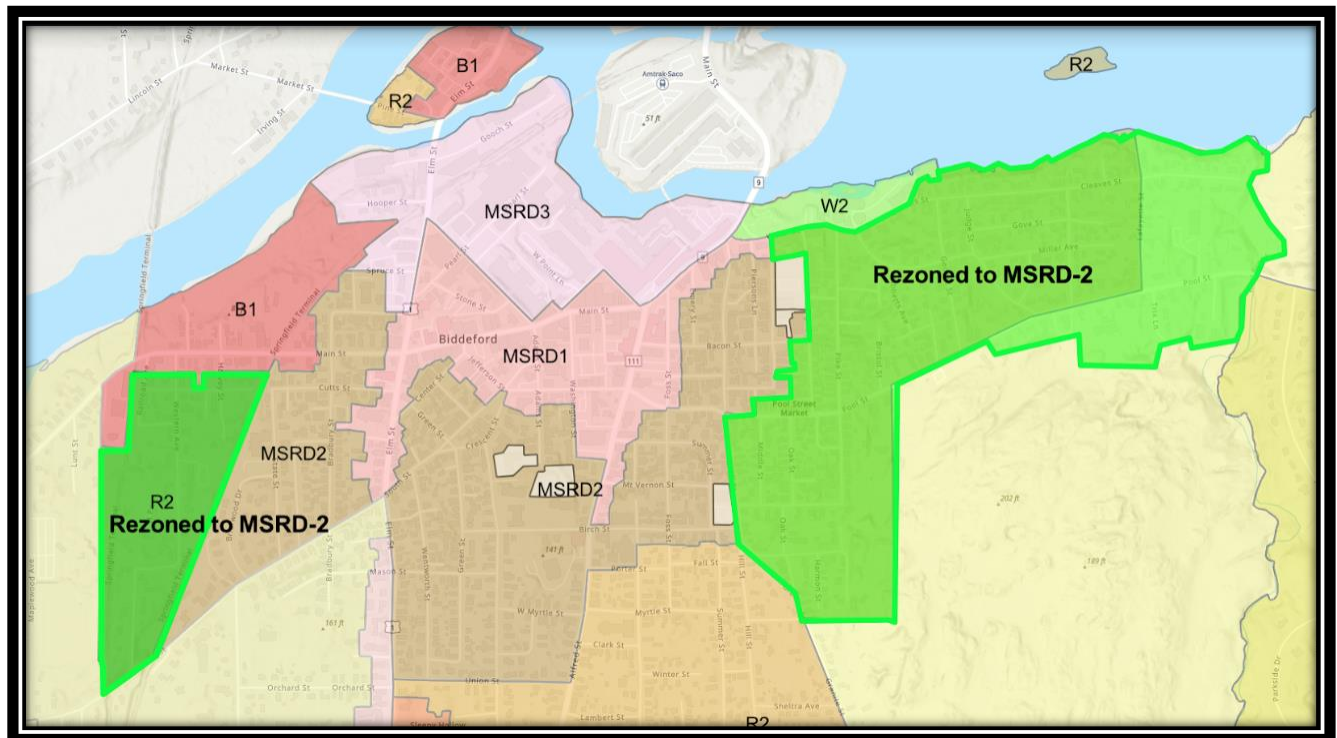
FROM: David C.M. Galbraith, Deputy Director / City Planner

DATE: December 12, 2023

RE: **Zoning Map Amendment: Rezoning Portions of the City's R-2 Zoning and R-1-A Zoning Districts to MSRD-2.**

MEETING DATE: December 20, 2023

1. Overview: This item was last discussed with the Planning Board at the December 6, 2023 regular Planning Board meeting. Staff is recommending a Zoning Map Amendment to portions of the R2 and R1A zones, as illustrated on the proposed Zoning map (below and attached) to MSRD2 so that they may also benefit from the affordable housing incentives.



Proposed Rezoning Areas from R-2 and R-1-A to MSRD-2 (highlighted in green)

Detailed Review:

This matter was originally discussed at the Policy Committee (June 22, 2023) who were evaluating our land use policies / zoning to create additional housing opportunities within the downtown. The easiest way to accomplish this goal, is to convert a portion of the R-2 and R-1-A zones, as illustrated on the proposed

Planner's Business: Zoning Map Amendment: Rezoning Portions of the City's R2 Zoning and R1A Districts to MSRD2.

Planning Board Date: December 20, 2023

Zoning map amendment, to MSRD-2 so that they may also benefit from the affordable housing incentives. The proposed rezoning areas are within the downtown and currently adjacent to the MRSD2 zone. The primary difference between the proposed map amendments is one of a series of land use amendments (text / map) toward compliance with "LD 2003".

Establishment of Zones – Table B – Dimensional Standards

Zoning District	Minimum Lot Size, Square Feet Per Unit A				Frontage			Minimum Setback, Feet**				Maximum Heights+	
	Water and Sewer	Water, No Sewer	Sewer, No Water	Neither Water Nor Sewer	Water and Sewer	Water or Sewer	Neither Water Nor Sewer	From Major R.O.W.	From Other R.O.W.	Side	Rear	Stories	Feet
SR-1	15,000 C	20,000 C	20,000 C	40,000 C	100	100	200	40	25	10	10	3	35
CR	See Table C below				150	150	150	40	25	25	25	3	35
R-1-A	10,000 B	20,000	10,000	20,000	100	100	100	40	25	10	10	3	35
R-1-B	5,000 B	20,000	5,000	20,000	50	50	50	25	10	5	5	3	35
R-2	4,500 B	N/A	N/A	N/A	45	N/A	N/A	25	15	5	5	3	35
R-3, single-family	10,000	20,000	20,000	40,000	100	120	200	40	25	10	10	3	35
R-3, duplex	7,500 B	30,000	N/A	N/A	120	120	120	40	25	15	15	3	35
R-3, multifamily	15,000 1st 2 units, then 6,000/unit D	N/A	N/A	N/A	150	N/A	N/A	40	40	25	25	3	35
R-3, all other	10,000	N/A	N/A	N/A	100	120	200	40	25	10	10	3	35

Zoning District	Minimum Lot Size, Square Feet Per Unit A				Frontage			Minimum Setback, Feet**				Maximum Heights+	
	Water and Sewer	Water, No Sewer	Sewer, No Water	Neither Water Nor Sewer	Water and Sewer	Water or Sewer	Neither Water Nor Sewer	From Major R.O.W.	From Other R.O.W.	Side	Rear	Stories	Feet
MSRD-1	None	N/A	N/A	N/A	None	None	None	None	None	None	None	Min. 2 stories or 26 feet; Max. 60 feet	
MSRD-2	2,000 B	N/A	N/A	N/A	50	N/A	N/A	15 R	15 R	10	10	3	35
MSRD-3	None	N/A	N/A	N/A	None	None	None	None	None	None	None	Min. 2 stories or 26 feet	

The primary difference between R2 and R1A zones when compared to the MSRD2 zoning district is the minimum square footage requirements per unit, as illustrated above. The proposed map amendment is one of a series of land use amendments (text / map) toward compliance with "LD 2003".

Staff Recommendation:

Staff is supportive of the proposed rezoning but is seeking input from the Planning Board prior to forwarding a formal recommendation for adoption of this amendment to the City Council.

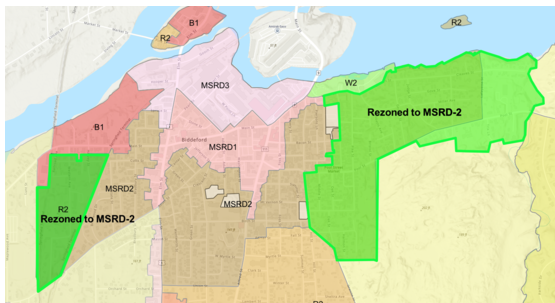
SAMPLE MOTION #1: An amendment to the City's Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations.

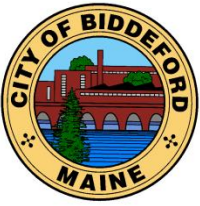
Planner's Business: Zoning Map Amendment: Rezoning Portions of the City's R2 Zoning and R1A Districts to MSRD2.

Planning Board Date: December 20, 2023

- A. Motion to Approve: I motion to APPROVE the proposed Map Amendments to Rezoning Areas from R-2 and R-1-A to MSRD-2, as proposed and illustrated.
- B. Motion to Deny I motion to DENY the proposed Map Amendments to Rezoning Areas from R-2 and R-1-A to MSRD-2, as proposed and illustrated for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.
- C. Motion to Table: I motion to TABLE the proposed Map Amendments to Rezoning Areas from R-2 and R-1-A to MSRD-2, as proposed and illustrated for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.

ATTACHMENTS: Proposed Map Amendment Area





CITY OF BIDDEFORD

Planning and Development Department

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
David.Galbraith@biddefordmaine.org

Planning Board – Staff Report

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, Acting Planning Director / City Planner

DATE: December 12, 2023

RE: **Ordinance Review: City Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations and City Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.**

MEETING DATE: December 20, 2023

1. **Overview:** This matter was last before the Planning Board on December 6, 2023. This will be the second reading / hearing regarding the proposed text amendments.

There are two (2) related Ordinance Amendments before the Planning Board related to subsurface wastewater disposal systems, namely:

- A. An amendment to the City's Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations, and;
- B. An amendment to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

These Amendments were last discussed at a special Planning Board "Workshop" on November 8, 2023 as a "Workshop Item" and the Board was supportive of the proposed text amendments. In addition to the proposed amendments, the Board recommended removing all references to sludge spreading to prohibit such use within the City as it is no longer a desired practice.

Attached are proposed amendments to Section 66-21 Soil Evaluations and amendments to Section 58 Subsurface wastewater disposal and sludge spreading. Text deletions are illustrated in ~~Red strike-thru~~ and text additions are shown in Blue Underline.

It should be noted that as these amendments are located within two different sections of the Code of Ordinances, two separate actions are required. As such, below are recommended motions to approve, deny or table these items.

Ordinance Review: City Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations and City Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

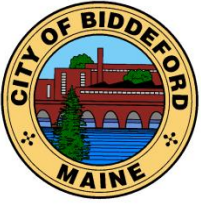
Planning Board Hearing Date: December 6, 2023, 1st Hearing

SAMPLE MOTION #1: An amendment to the City's Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations.

- A. Motion to Approve: I motion to APPROVE the proposed Amendments to Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations, as proposed and written.
- B. Motion to Deny I motion to DENY the proposed Amendments to the City's Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations for the following reasons:
- 1) _____.
 - 2)
 - 3)
- C. Motion to Table: I motion to TABLE the proposed Amendments to the City's Code of Ordinances, An amendment to the City's Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations for the following reasons:
- 1) _____
 - 2)
 - 3)

SAMPLE MOTION #2: An amendment to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

- A. Motion to Approve: I motion to APPROVE the proposed amendment to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading as written and proposed.
- 1).
 - 2).
 - 3).
- B. Motion to Deny: I motion to DENY the proposed Amendments to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading, for the following reasons:
- 1).
 - 2).
 - 3).
- C. Motion to Table: I motion to TABLE the proposed An amendment to the City's Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading, for the following reasons:
- 1).
 - 2).
 - 3).



CITY OF BIDDEFORD

Planning and Development Department

David C.M. Galbraith
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Staff Recommendation:

Staff requests that the Planning Board forward a positive recommendation for adoption of these amendments to the City Council to bring the Ordinance into compliance with our current operating procedures and to eliminate sludge spreading / disposal from the City Code of Ordinances.

ATTACHMENT: Attachment # 1: Proposed Text Amendments to Section 66-21 Soil Evaluations, and an amendment to Section 58 Subsurface wastewater disposal and sludge spreading.

From: McGough, John <John.McGough@legislature.maine.gov>
Sent: Friday, December 8, 2023 3:37 PM
To: Vail, Deanne <deanne.vail@biddefordmaine.org>
Cc: dacray@msn.com
Subject: Inquiry regarding the spreading of sludge

EXTERNAL: This email originated from outside of the City of Biddeford email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.
Deanne,

At your request, I reached out to the Maine Department of Environmental Protection (MEDEP) regarding if the City of Biddeford may restrict the spreading of sludge within city limits. As the issue is commonly related to the PFAS concern, the Maine Legislature recently enacted legislation regarding the application of sludge.

Specifically, the land application of sludge was banned via **38 MRS Section 1306(7): Title 38, §1306: Prohibition ([maine.gov](https://www.maine.gov))**. There should be no land application of sludge in the State of Maine, as of August, 2022, when the law became effective.

Essentially, Maine DEP is not quite sure what a municipal ordinance would accomplish in this situation. However, it is still possible that compost or manure that isn't sludge derived is being land applied. Both of those items are approved for use on land and are typically governed by the Maine Department of Agriculture, Conservation and Forestry, rather than the Maine DEP.

If you have additional questions or need more information, please let me know.

Thanks,
John McGough

John G. McGough, Senior Legislative Aide
House Republican Office
Maine House of Representatives
2 State House Station
Augusta, Maine 04333
Office: (207) 287-1440

Ordinance Review: City Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations and City Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

Planning Board: Public Hearing December 20, 2023 – Second Reading

EXISTING Ordinance Language:

Sec. 66-21 Soils evaluations.

[Ord. of 6-20-1995]

- (a) Soil tests shall be taken according to the State Plumbing Code, and ~~the evaluator shall be accompanied by~~ the City Plumbing Inspector or his designated agent in accordance with City ordinances shall inspect the original ground scarification prior to the fill that will establish the elevation where the septic bed will be built upon.
- (b) The City ~~Planning~~ Plumbing Inspector shall ~~be present and witness the excavation of each test pit. A certification with his signature shall be presented by the subdivider at time of preliminary plan application.~~ inspect the top of the disposal device and septic components.
- (c) A completed HHE 200 Form for each lot shall be submitted with the final application. This requirement shall also hold in cases where a common or communal system is proposed.

EXISTING Ordinance Language:

Section 58 Subsurface wastewater disposal ~~and sludge spreading.~~

[Ord. of 3-5-1991(2)]

I. Subsurface wastewater disposal systems.

- A. All subsurface sewage disposal systems shall be installed in conformance with the State of Maine Subsurface Wastewater Disposal Rules (rules).
 - 1. The minimum setback for new subsurface sewage disposal systems shall be no less than 100 horizontal feet from the normal high-water line of a perennial water body, such as a lake, pond or year-round stream, and wells or other drinking water supplies.
 - 2. Replacement systems shall meet the standards for the replacement systems as contained in the rules.
- B. Any lot proposed shall have a separate soils test and HHE-200 form prepared by a licensed site evaluator. Disposal system locations shall be indicated on plats presented to the Building Inspector or Planning Board.

Ordinance Review: City Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations and City Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

Planning Board: Public Hearing December 20, 2023 – Second Reading

1. The certified plumbing inspector (LPI) of the City of Biddeford shall ~~be present when test pits are being dug to ensure that the pit meets all standards and that the pit is filled after digging to avoid a potential safety hazard~~ inspect the original ground scarification prior to the fill that will establish the elevation where the septic bed will be built upon.
2. Further, the LPI shall ~~be notified prior to placement of any tanks or leach field. He shall be present to verify installation~~ inspect the top of the disposal device and septic components.
3. In the case that the LPI is not available, the Building Inspector may ~~observe~~ inspect.

C. Not exclusive of Subsection B above, common or shared disposal systems may be allowed by the Planning Board upon presentation of detailed plans approved by the Maine Department of Health and Human Services, Division of Health Engineering, and documents detailing plans and agreements for system maintenance.

~~II. Sewage and industrial sludge spreading (including land spreading of contaminated soils as defined by Maine Department of Environmental Protection).~~

~~A. The City of Biddeford recognizes the advantages that the spreading of selected sludges has for agricultural lands. The City also realizes that this spreading can pose problems for abutting property owners. The City of Biddeford therefore requires that any proposal for the spreading of sewage or industrial sludge, or contaminated soils be reviewed by the Planning Board prior to permitting by the Maine Department of Environmental Protection (DEP). This review will allow for public input and allow concerns to be presented to the applicant and the DEP prior to any action by the State Department.~~

~~B. Any proposed spreading or storage of sewage or industrial sludge, or contaminated soil, shall submit an application to the City planning office. The Planning Board shall schedule a site review of the application within 30 days of receipt of the application.~~

~~C. Ten copies of the application shall be submitted. Such application shall include:~~

~~1. A narrative description of proposed spreading operation to include:~~

~~a. The application submitted to DEP.~~

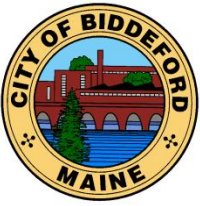
~~D. The City Planner shall provide copies of the DEP application to the City Engineer and the City's environmental specialist for review and comment. These comments shall be submitted to the Planning Board and shall be made part of the permanent record for the application.~~

Ordinance Review: City Code of Ordinances, Part II: Code of Ordinances / Subdivisions – Article I, Section 66-21 Soil Evaluations and City Code of Ordinances, Part III: Code of Ordinances, Article VI – Performance Standards Section 58 Subsurface wastewater disposal and sludge spreading.

Planning Board: Public Hearing December 20, 2023 – Second Reading

~~E. The Board may conduct a public hearing concerning the application. The Bureau of Remediation and Solid Waste Management, Division of Solid Waste Management, shall be notified of the meeting.~~

~~F. The Bureau of Remediation and Solid Waste Management, Division of Solid Waste Management, shall be notified of the board's decision concerning the application. In the case of a negative/disapproval of the application, a copy of the findings of fact and supporting materials shall be forwarded along with the decision.~~



CITY OF BIDDEFORD

Planning and Development Department

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Planning Board – Staff Report

TO: Chair Patoine and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, Deputy Director / City Planner

DATE: December 13, 2023

RE: Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning district – FIRST READING

MEETING DATE: December 20, 2023

Overview:

This item was last discussed with the Planning Board under Planner’s Business at the December 6, 2023 regular Board meeting. This request for an amendment came about as the Code and Planning Offices were assisting a client who is interested in opening a bottle club and despite the Code of Ordinances having specific regulations for the use the actual use is not listed in the City’s Table of Land Uses known as “Table A”. The City’s Code of Ordinances contains numerous references to “Bottle Clubs” however, the City’s Table of Land Uses, Table A does not list Bottle Clubs as a “permitted” or “conditional use” within any zoning district which Staff believes was an unattended omission from the Code of Ordinances. Staff is recommending that Table A be amended to allow bottle clubs as a permitted use, identified as “P” in Table A, within the MSRD1 zoning District.

As previously mentioned, Staff believes that bottle clubs were inadvertently omitted from Table A. Below are the reference sections from the Code of Ordinances:

1. City of Biddeford Code of Ordinances, Part III Land Development Regulations, Article II, Section 2 Definitions:

BOTTLE CLUB:

An establishment or structure where no alcoholic beverages are sold, but where members, guests or customers provide their own alcoholic beverages, paying a fee or other consideration for admission or membership to the bottle club and/or for setups.

2. City of Biddeford Code of Ordinances, Part II Code of Ordinances / Businesses, Article I – In General, Section 22-2 Definitions:

Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning district – FIRST READING

Planning Board Meeting: December 20, 2023 – FIRST READING

BOTTLE CLUB:

Persons operating, on a regular, profit or nonprofit basis, facilities for social activities in which members or guests provide their own liquor, where no liquor is sold on the bottle club premises, which maintain suitable facilities for the use of members on a regular basis or charge an admission fee to members or the general public and where members, guests or others are regularly permitted to consume liquor.

3. City of Biddeford Code of Ordinances, Part II Code of Ordinances / Businesses, Article III – Criteria, Section 22-22 Places of amusement/entertainment:

Sec. 22-22 Places of amusement/entertainment.

[Ord. of 4-21-1998(4); Ord. No. 2003.114, 11-18-2003; amended 9-1-2009 by Ord. No. 2009.42]

Places of assembly for the purpose of entertainment must obtain a license from the City in accordance with these provisions. The preparation of food for sale to the public on premises will require a separate victualers license under the provisions of Section **22-27**, Subsection (2) – Bottle Clubs:

(2) Bottle club.

a. License. No person shall keep, maintain, operate, lease, or otherwise furnish, either to its members and guests or to the general public, any premises, building, or place for use as a bottle club without first having obtained a license and paying the fee therefor. A separate license must be obtained for each branch or separate establishment of a bottle club. Each license shall authorize the operation of such establishment only at the location described in such license and in conformity with all applicable ordinances and law. No license shall be transferred to another person or to any other location, except that a licensed bottle club may change its name upon approval of the City Council if its location remains the same. Every bottle club shall exhibit its license at all times in a conspicuous place on its premises.

b. Application.

1. Every applicant for a bottle club license shall:

[a] Complete and file an application on a form prescribed by the City Clerk;

[b] Deposit the prescribed license fee with the City Clerk;

[c] Submit the completed application to the City Clerk, together with attested copies of the articles of incorporation and bylaws, if the applicant is a corporation, or articles of

Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning district – FIRST READING

Planning Board Meeting: December 20, 2023 – FIRST READING

association and bylaws if the applicant is an association, as well as a list of all officers of the bottle club;

[d] File an affidavit which will identify all officers and their places of residency at the present time and for the immediately preceding three years.

2. Submission of false information in an application for a license is a violation of this article and such act shall be grounds for the denial of the application.

c. Fees. Notwithstanding any other provisions of this chapter, a bona fide nonprofit, charitable, educational, political, civic, recreational, fraternal, patriotic or religious organization is not subject to Section **22-11** of this article pertaining to fees.

d. Qualification of officers. All officers of a bottle club shall meet the following qualifications: Never have been convicted of a Class A, B or C crime nor of violating any of the gambling or prohibitive liquor laws either of the United States or of Maine or any other state, within five years immediately preceding the date of application. Each such officer shall file the release authorized by 16 M.R.S.A. § 620(6) Subsection 6, Criminal History Record Information Act, with the application. Failure to provide such a release shall be grounds for denial of the application.

e. Description of the premises. Every applicant for a bottle club license shall include in the application a description of the premises for which a license is desired and shall set forth such other material information, description, or plan of that part of the premises where it is proposed to consume or keep liquor.

f. Articles and bylaws. Applicants for bottle club licenses shall possess written articles of incorporation or association and bylaws. The articles or bylaws shall provide for regular election of officers or directors. Membership shall be regulated by such articles or bylaws.

g. Inspections of premises.

1. The Code Enforcement Officer shall verify that the premises of the proposed bottle club comply with the applicable ordinances of the City, including, but not by way of limitation, the Building Code, Electrical Code, Plumbing Code, and Zoning Ordinance, and shall report his findings in writing to the City Clerk.

2. The Fire Chief shall cause an inspection to be made of the proposed location of the bottle club for the purpose of determining if City ordinances concerning fire and safety have been complied with. He shall submit a report of his findings in writing to the City Clerk.

Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A "Table of Land Uses" allow bottle clubs within the MSRD1 zoning district – FIRST READING

Planning Board Meeting: December 20, 2023 – FIRST READING

h. Notice of hearing.

1. After receipt of the written reports required by Section 22-22(2)g, the City Clerk shall give notice of the public hearings on applications for bottle club in the form and manner and to the persons specified in this section. The notice shall include the time and place of such hearing, the nature of the matter to be heard, and the address or location of the property involved. Where notice by mail is required, it shall be mailed at least seven days in advance of the hearing date by regular United States mail.
2. Notices for hearings under this section may be given by publication in a newspaper of general circulation in the City at the applicant's prepaid expense at least three consecutive days before the date of hearing in a daily newspaper. Notice to the owners of all the property within 500 feet of such parcel or tract shall be by mail.
3. For the purpose of this section the "owners of property" shall be considered to be the parties listed by the Tax Collector of the City as those against whom taxes are assessed. Failure of any property owner to receive a notice of public hearing shall not necessitate another hearing and shall not invalidate any action of the municipal officers.

i. Proximity to schools and churches. No new bottle club license shall be granted under this article to premises located within 300 feet of any school, church or area designated primarily for use by minors.

j. Permitted. No person under the age of 21 years is permitted in or on that part of the premises subject to the control of a bottle club where persons are permitted to drink alcoholic beverages; except that persons under the age 21 years may be permitted admittance to the bottle club for the purpose of employment or when the person under 21 years of age is accompanied by a parent or legal guardian.

k. Hours. The premises used as a bottle club shall be closed and vacated by members and guests each day from 1:00 a.m. to 6:00 a.m., except that on January 1 the premises may remain open until 2:00 a.m. During the hours that a bottle club must remain closed, no members, guests or other persons, other than regular employees, may be on or remain therein, and the use by anyone of the premises or facilities of the bottle club for the drinking of alcoholic beverages during such hours when a bottle club must remain closed is prohibited.

l. Entrance to be marked. The entrance to any bottle club shall be plainly marked "Bottle Club, Members and Guests Only."

Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning district – FIRST READING

Planning Board Meeting: December 20, 2023 – FIRST READING

- m.** Illegal activities. No license under this article shall knowingly permit any illegal activities to take place on the licensed premises.
- n.** Right of inspection. The applicant or licensee, his agents and employees shall allow access to the bottle club by the Code Enforcement Officer or his or her designated assistants or agents for the purposes of inspecting the premises and ensuring that no violation of this article or any law is taking place.
- o.** Suspension or revocation of license. A license to operate a bottle club, as provided for by this article, may be denied, suspended or revoked by the municipal officers for either violation of or failure to comply with any of the provisions of this article. Determination of the severity of the violation and whether or not a denial, suspension or revocation is warranted shall be made by the municipal officers, after notice and hearing.
- p.** Appeals. An appeal from any final decision of the municipal officers may be taken by the applicant to the State Liquor Commission pursuant to 28-A M.R.S.A. § 161-B(5) or to the superior court in accordance with the provisions of Rule 80B of the Maine Rules of Civil Procedure.

Based on the above items still included within the City’s Code of Ordinances, Staff is recommending that the Land Use designation for “Bottle Clubs” be included as permitted use, unless the Board deems the use significant enough to warrant Planning Board review, in which case the use can be included within the Table of Land Uses as a “Conditional Use” as identified as “C”. Attached is Table A “Table of Land Uses” showing the use as “P” for “Permitted Use”.

Staff Recommendations:

Staff recommends the Board review the above listed definitions and regulations and determine of “Bottle Clubs” should be a Permitted Use or Conditional Use. Staff requests that the Planning Board forward a positive recommendation for adoption of the proposed amendment to the City Council to formally adopt the proposed modification to Table A, as attached.

SAMPLE MOTION #1 – Table A:

- A. Motion to Approve: I motion to APPROVE the proposed Amendments to Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning district, as a “Permitted Use” and forward a positive recommendation for Council adoption.

**Zoning Ordinance Amendment: Code of Ordinances, Part III: Land Development Regulations,
Amendment to Table A “Table of Land Uses” allow bottle clubs within the MSRD1 zoning
district – FIRST READING**

Planning Board Meeting: December 20, 2023 – FIRST READING

- B. Motion to Deny I motion to DENY the proposed Amendments to Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow”, to allow bottle clubs within the MSRD1 zoning district, as a “Permitted Use” for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.
- C. Motion to Table: I motion to TABLE the proposed Amendments to Code of Ordinances, Part III: Land Development Regulations, Amendment to Table A “Table of Land Uses” allow Amendment to allow bottle clubs within the MSRD1 zoning district, as a “Permitted Use”, for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.

Attachment 1: Table of Land Uses – Table A

V Attachment 1 City of Biddeford Table A
Table of Land Uses

[Amended 2-2-2010 by Ord. No. 2009.98; 8-3-2010 by Ord. No. 2010.70; 9-21-2010 by Ord. No. 2010.93; 6-21-2011 by Ord. No. 2011.36;
6-21-2011 by Ord. No. 2011.37; 4-3-2012 by Ord. No. 2012.24; 4-16-2013 by Ord. No. 2013.24; 3-18-2014 by Ord. No. 2014.16; 9-6-2016 by Ord. No. 2016.74; 1-17-2017 by Ord. No. 2016.87; 6-20-2017 by Ord. No. 2017.57; 1-
16-2018 by Ord. No. 2018.3; 1-16-2018 by Ord. No. 2018.5; 6-5-2018 by Ord. No. 2018.44; 10-2-2018 by Ord. No. 2018.110; 3-5-2019 by Ord. No. 2019.15; 3-5-2019 by Ord. No. 2019.16]

KEY:
* Subject to Article VI, Performance Standards, of this ordinance. P Permitted use.
Not permitted.
C Conditional use. See Article VII for specific standards. A Accessory use.

	Article VI Section ^a	SR-1	CR	R-1-A	R-1-B	R-2	R-3	B-1	B-2	I-1	I-2	I-3	W-1	W-2	W-3	R-F	LR-F	M	IN ²⁰	OR
Residential uses:																				
Accessory dwelling units* 27	78	P	p	P	P	P	P						P		P	P				P
Accessory structure*	2	P3	P3	P3	P3	P3	P3	P	P	P	P	P	P	P	P	P			P	P
Boarding, rooming house*	10					C	C													
Bed-and-breakfast*	9		C			C							C			C				C
Cluster development*	18	C	C	C	C	C	C									C17				
Congregate housing*	19					C	C									C				C
Duplex/2-family	24	C				P	P								P	C				P
Home occupation*	38	C	C	C	C	C	C	C						C	C	C				C
Manufactured housing*	See Article VI, Section 45.																			
Mobile home park*	See Article VI, Section 45.																			
Multifamily dwelling*	47					P	P	P						P1	P					C
Planned unit development*	73					C	C													C
Single-family dwelling 11	2	P	P	P	P	P	P						P		P	P				P
Commercial uses:																				
Adult business	3								C17											
Amusement center*	5							C	C											
Art gallery			C					P							C	C				C
Art studio			C					P							C	C				C
Auto body shops										C		C								
Automobile graveyard, automobile recycling business, junkyard*	7									C							C			
Automobile repair, sales									P	P		C								
Boat building, repair, marine services, sales, boat livery, marina, yacht club								P	P			C	P	P	P					

<u>Bottle Clubs</u>																				
	Article VI Section ^a	SR-1	CR	R-1-A	R-1-B	R-2	R-3	B-1	B-2	I-1	I-2	I-3	W-1	W-2	W-3	R-F	LR-F	M	IN ²⁰	OR
Building materials retail sales								P	P	P		P				C				
Carwash*	14							C	C	C		A								
Commercial gardening, commercial greenhouse*	17	C	C	C	C				P							P				
Commercial recreation*	18							C	C	C		C				C				
Commercial school*	53							P	P			P								
Drugstore/medical supply								P	P			P						P		
Financial institution								P	P	C		P							C19	
Firewood processing*	33															P	P			
Fisheries processing, storage*	34												P							
Funeral parlor								P	P	P		P								
Gasoline service station*	36							P	P	P		C				C				
Hotel/motel*	40							P	P	P		P		P						
Indoor theater								P	P	P		P								
Kennel, veterinary hospital*	42								P	P		P				P				
Medical marijuana dispensaries												C23								
Medical marijuana growing facilities										C23	C23									
Neighborhood convenience store/service		C4	C4	C4	C4	P	P	P	P			P				P				
Off-street loading and parking lot and facilities, commercial parking garage	49					C	P	P	P9	P		A	P	P	P	C				
Offices, business and professional*	52							P	P	P	P	P		P	P			P10		C
Planned unit developments*	73							C	C											
Publishing, printing								P	P	P	P	P								C
Restaurant*	56							P	P	P		P	P	P	P	C		C		
Retail store								P	P	P		P	P	P	P	C		C		
Sawmill*	33															C	C			
Services								P	P	P		P	P	P	P	C		C		C
Shopping center								C	C	C		C								
Telecommunications facilities	71											C				C	C			
Wholesale business									P	P	P	P								
Industrial uses:																				
Air transportation related use											C									
	Article VI Section ^a	SR-1	CR	R-1-A	R-1-B	R-2	R-3	B-1	B-2	I-1	I-2	I-3	W-1	W-2	W-3	R-F	LR-F	M	IN ²⁰	OR
Air transportation dependent use*										C	C									
Airport	4									C	C									

Bulk oil terminal*	41									C										
Contractor's storage yard										C	C					C	C			
Demolition disposal*	23																C			
Experimental research and testing laboratory	29								C	C	C	C						C	C19	
Light manufacturing*	41								C	P	P	P								
Light trucking dependent industry*	41								C	P	P	C								
Manufacturing*	41									C	C	C								
Planned unit developments*	73									C	C	C								
Resource recovery facility																				
Recycling facilities	76									C	C									
Redemption centers									C	P							P			
Storage of bulk gaseous fuels*	41									P	P	P								
Transportation facilities										P		C14	P			P				
Trucking, distribution terminal*									C	P	P	C								
Warehousing and storage*	60								P	P	P	A								
Self-storage facilities*	60								C16	C25, 26	P		C							
Educational, institutional public uses:																				
Addiction treatment facility 22																		C		
Church, synagogue*		C	C	C	C	C	C		C							C		C		
Civic, convention centers								C	C			C								
Community centers, clubs							C	C	C	C		C								
Day-care center, adult	22	C	C	C	C	C	C	C	P	P	P	P				C		C		
Day-care home, adult	22	C	C	C	C	C	C		C					C	C	C	C	C		
Day-care home, children's	22	C	C	C	C	C	C		C							C	C	C		
Day-care center, children's	22	C	C	C	C	C	C	C	C	C	C	C				C		C		
Essential services	27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Fire, police station							C	C	P	P		P				C			C19	
Group homes, hospice	19	C	C	C	C	P	P	P	P							C				
Hospital*	39																	P		
Municipal use	47.1	C	C	C	C	C	C	P	P	P	P	P	P	P	P	C	C	P		C
Museum, library			C					P	P			C				C		P	C19	
Nursing home*	39	C					P	P								C		C		
Public and private schools*	53			C	C	P	P		C							P		C		
Public facility		C	C	C	C	C	C	P	P	C	C	P	C	C		C	C	C	C	C
	Article VI Section ^a	SR-1	CR	R-1-A	R-1-B	R-2	R-3	B-1	B-2	I-1	I-2	I-3	W-1	W-2	W-3	R-F	LR-F	M	IN ²⁰	OR
Rehabilitation facility																		P		
University/college*		C	C									C				C		C	P	
University uses*		C										C				C		C	P	
Water supply system	27	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Outdoor, resource-based uses:																				
Agriculture*	3, 31															P				
Agricultural products processing and storage*	3, 31										P					P				

Animal breeding or care	42															P				
Campground*	13															C				
Cemetery	14.1	C	C	C	C	C	C									P	C		C19	
Extractive industry*	30								P2	P2						P2	P2			
Farm stands* 13	31															P				
Timber harvesting	64		C													P	P		C19	
Golf course excluding miniature golf		P	P	P	P											P				
Parks and recreation*		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P19	

- NOTES:**
- ^a This column has been provided to serve as an aid in finding specific performance standards, but does not address all standards that may apply. Please consult Article VI for subsequent standards that may apply to a particular project. All uses cited above are subject to specific lot and setback, height, and performance requirements, as well as spe
- Multifamily use shall not exceed 10 units per structure.
 - Requires Planning Board approval.
 - Accessory structures shall be limited to:
 - Private detached garages for the storage of no more than three automobiles.
 - Private greenhouses less than 200 square feet in floor area.
 - Private swimming pools.
 - Storage sheds, provided that they are uninhabitable and less than 200 square feet in area.
 - Decks, porches, patios, gazebos, summerhouses, and other structures intended for outdoor use, provided they are uninhabitable.
 - No closer than 1,000 feet to another similar facility.
 - (Reserved)
 - (Reserved)
 - Drive-through establishments (except as provided in Note 8) and street level residential uses are prohibited in the MSRD-1 Commercial Core District in the following areas:
 - Along both sides of Main Street between the intersection of Elm Street (Route 1) and Main Street through to the Saco City Line north of Water Street;
 - On both sides of Adams Street from Main Street to Jefferson Street;
 - On the north side of Jefferson Street from Main Street to Alfred Street;
 - On both sides of Washington Street from Main Street to Jefferson Street;
 - On both sides of Federal Street between Washington Street and Franklin Street;
 - On both sides of Franklin Street; and
 - On both sides of Alfred Street from Jefferson Street/Pool Street to Main Street.
 - Financial institutions are permitted drive-throughs limited to two lanes, are a conditional review by the Planning Board, and must adhere to the following standards:
 - Located on the side or rear of the building and never between the building and the Main Street.
 - Access drive located to minimize impact on pedestrians:

- Not between building and the street;
 - Entrance from a side street where possible;
 - Sidewalk material carried across any driveways.
- (c) Adequate queuing land preferably separate from the parking lot.
- (d) Architectural treatment compatible with main building.
- (e) Controlled lighting that does not glare onto neighboring property.
9. Review by the Board of Appeals required for all truck loading facilities for new buildings and for changes in tenancy.
10. Limited to offices for medical professionals and associated fields.
11. Unless otherwise stated or allowed within the provisions of this ordinance, no more than one dwelling unit shall be allowed per lot.
12. (Reserved)
13. Shall be considered as a home occupation; only products grown on the premises may be sold, unless the stand is recognized as a commercial operation.
14. Transportation facilities here shall be limited to facilities associated with firms or businesses serving passenger transport, such as bus terminals, taxi stations, passenger rail stations, etc.
15. (Reserved)
16. Shall be limited to internal storage in existing buildings that require no external structural changes. No loading bays shall be constructed. Off-street parking shall be available with no fewer than one space per 20 storage units. A copy of the contract that will be offered to prospective tenants shall be submitted for review.
17. Adult businesses are restricted to that portion of the B-2 District between Dartmouth Street and Landry Street. No adult business shall be located on any lot or parcel of land with road frontage on Elm Street.
18. All subdivisions in the Rural Farm Zoning District shall be clustered, and developed in accordance with Article VI, Section 16, Cluster Developments, of this ordinance.
19. This use does not include facilities, activities, or programs conducted by or hosted by a college or university that meet the definition of “university uses.” Such uses shall be considered as university uses and shall be permitted in the institutional zone subject to the requirements of the zone and the additional performance standards for college
20. Within that portion of the Institutional (IN) Zone subject to a Shoreland Zoning District, existing buildings, structures, and roads may be maintained, modified, or replaced but no new buildings shall be built or located and no existing buildings shall be enlarged (including the replacement of existing buildings) except as follows: The existing meet the requirements of applicable local, state, or federal codes or regulations, the existing sewage treatment plant may be expanded or replaced, and the existing Marine Science Center may be expanded through the construction of one additional building, provided that such changes meet all shoreland requirements and the performance standard
21. See Article V, Section 7, Main Street Revitalization Districts for land uses.
22. All addiction treatment facilities shall meet all applicable federal, state, and local laws and regulations. No occupancy permits shall be issued until evidence of state certification has been presented to the Code Enforcement Office.
23. All medical marijuana dispensaries and growing facilities shall be governed by and subject to the Maine Department of Health and Human Services, Division of Licensing and Regulatory Services, 10-144 CMR Chapter 122 (as amended).
24. (Reserved)
25. Internal storage fully enclosed within buildings only. Loading bays shall be located on the side or rear of buildings and shall be screened from view from public streets and any abutting residential uses.
26. Self- storage facilities in the B-2 Zone shall not be permitted northeast of the Route 1/Dartmouth Street intersection.
27. Accessory dwelling units may also be permitted in nonresidential zones where there exists a nonconforming (as to use) single-family dwelling on a lot that was in existence as of January 1, 2017. See Article VI, Section 78.

MSRD-1 ^{7,8}	MSRD-2	MSRD-3
	P	
P	P	P
	C	C
P	C	P
	C	
P	C	P
	P	
C	C	C
P	P	P
C	C	C
	P	
C		C
P	C	P
P	P	P
		C
C		

<u>P</u>		
MSRD-1 ^{7,8}	MSRD-2	MSRD-3
C		P
		C
P		P
P		P
P		P
P		P
		P
P		P
P		P
P	C	
P	C	P
P	C	P
C		C
P		P
P		P
P		P
P		P
C		P
		P
MSRD-1 ^{7,8}	MSRD-2	MSRD-3

		C
		P
		P
		P
		C
		C
		P
		C
C	C	C

C	C	C
C		C
C	C	C
C	C	C
C	C	C
	C	C
C	C	C
C	C	C
P	C	
C	C	P
		P
P	C	P
P	C	P
C	C	C
C	C	C
P	C	P
MSRD-1 ^{7,8}	MSRD-2	MSRD-3
		C
C		P
C		P
C	C	C

P	P	P

pecific notes below:

:s/universities.
; buildings and roads may be modified to the extent necessary to
s of Article XIV.